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STUDENT STYLES AND SOCIALIZATION: A COMPARATIVE STUDY

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I. INTRODUCTION: THE CONTEXT

1. THE STATE OF THE ART: EDUCATION INDICES REFLECTING WORLD-WIDE TRENDS IN EDUCATION

In the first decade of the 21st century we must acknowledge that due to the ever increasing tempo of developments in technology the events forecasted by Carkhuff (1989) are becoming a reality. He prophesized that information will be the first and foremost source of "wealth" in societies in the 21st century, i.e. the 21st century will become the era of information and information technology. Mankind has travelled down the road of information technology at an amazing speed. In less then 100 years we are able to hold a palm-computer in our hands, something that was originally a room-sized machine; we are not only able to talk with acquaintances within the town, but thanks to satellites and mobile phones – virtually anywhere in the world; and even though we don't have an intimate knowledge of the woods we can do away with maps, we only need to know coordinates if we have GPRS. Parallel to these developments sources of information have also grown thousand fold. How do socialization processes keep up with this? Have our ways, forms and methods of socialization kept up with this pace? Has the efficiency of knowledge transmission also increased?

One of the evident answers of societies all over the world is and was to make education compulsory. As a result of the recognition that universal education is the key to sustainable development, social justice and a brighter future UNESCO had launched the programme "Education for All" (EFA) in 1990 at Jomtien, Thailand to emphasize and provide aid in achieving this goal. The impetus for setting up the programme comes from the Universal Declaration of Human Rights and the United Nations Convention on the Rights of the Child of 1989, ratified by 192 nations which guarantees the rights of young children to survive, develop and be protected, their right to grow up to become an educated person.

Just how efficient are societies in this process? It seems not very... Still one in every five persons in the world lacks minimum literacy skills, and of those, two-thirds are women. According to statistics of the monitoring report in 2007 the World's gross enrolment rates (GER) have increased by 6 percent in the interval between 1999 and 2004, reflecting an increasing intake capacity of school systems. In comparison net enrolment ratios (NER) have only increased by 3 percent – showing how much of the potentially available resources were utilized. NER has increased to the highest degree in countries in transition[1] (5.7%), a 3.4% median increase is evident in developing countries, while there was no significant change in developed countries during the 1999-2004 time-interval (UNESCO, 2006). In spite of these welcome facts there is still room for development, when we look at the percentage not completing their primary education, i.e. school drops-outs, the rate of which can be as high as one-third in some regions of the world. Another commonplace problem exacerbating the situation is grade repetition, which can be as high as 10-24 percent, for example, in Latin-America (UNESCO, 2006).

In 2000 in Dakar six broad Education for All (EFA) goals have been identified:

"1. Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.

2. Ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality.

3. Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes.

4. Achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.

[1] Countries in transition refer to countries characterized by transition economy and refer to all countries, which attempt to change their basic constitutional elements towards market-style fundamentals. This category comprises 25 countries: Cambodia, China, Laos, Mongolia and Vietnam in Asia; Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Republic of Macedonia, Montenegro, Romania, Serbia in Europe; Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan of the Commonwealth of Independent States.

5. Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality.

6. Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills." (UNESCO, 2000.)

The above goals are underscored by the fact that the UN Millennium Summit in 2000 also formulated in its goals and targets the need to achieve universal primary education by 2015 all over the world, and promote gender equality by eliminating gender disparity in primary and secondary education preferably by 2005, and at all levels of education no later than 2015 United Nations (United Nations, 2005.). These goals also acknowledge that unequal opportunities exist for children dependent on not only the region and country they are born in, but also as a function of their gender.

As identified by the above mentioned documents, financial issues lie at the heart of these challenges. While the availability, the length and breadth of education is determined by financial issues, the content of education is determined by the behaviours, skills and knowledge deemed important by the given mainstream society. Thus financial issues and the goals set by society will determine the system of schooling offered – but the content is determined by the norms, values and behaviours expected by the mainstream culture of the society which are transferred via the formal education provided through the school-system. As Lindquist (1970) pointed out, socialization is made up of formal and informal processes to enculturate infants, children and youth into adulthood, and schooling is the vehicle of formal socialization. When considering formal socialization processes we must keep in mind that it is established and sustained by society, reflecting mainstream culture and as such, its main function is the maintenance of social order – apart from socializing the young. At the same time, large scale changes as envisioned by the program "Education for All", usually take place when there is a growth in the numbers of school-aged children, there is a change of means of production requiring

an increasing level of trained workers, and there is a wide-spread acceptance of social responsibility for its provision. These, in turn characteristically set in motion reforms aimed at diversifying education and ensuring gender equity (Burns, 2002). As the reaction of education unfolds education itself triggers changes, playing a proactive role in the transition to democracy, especially in developing countries that are struggling with global economy and trying to find their cultural roots. Parallel to widespread changes in education, society increasingly expects education to provide "fixes" to problems, and implicitly the state as the main provider of schooling, is forced into a more active role in the realm of welfare and moral education (Husén, 1993; Burns, 2002).

In the following two sections of this chapter we will provide an overview of the structure of educational systems and their characteristics as reflected by statistical data in the countries participating in the research.

2. Characteristics of the educational system in the US, Australia and Hungary

In all three countries compulsory schooling begins between age 5 and 7 and continues until age 16 or 18 – differing state by state. High percentages of students participate in compulsory schooling – statistics indicating a 89-95% of same age cohort participating in primary schooling and 87-91% net enrolment rate in case of secondary schooling (UNESCO,.2004a,b,c). In the US and Australia the beginning of compulsory schooling is at the age of 5 or 6 with the first year of primary schooling integrating a year of kindergarten education. The situation is similar in Hungary inasmuch as the last year of kindergarten is a part of compulsory schooling, although on an organizational level they are included in a separate system of kindergartens. All three countries are similar in the regard that early childhood education is not compulsory, but there are significant differences in the provision of early childhood education. While in Hungary the majority of children (83%) attend state-owned and operated kindergartens (although we must hastily add that the numbers of private

kindergartens providing a wide variety of extracurricular activities is ever-increasing), the provision of early education is not looked upon as the responsibility of the state in the US or Australia. In the latter two countries women's return to the work-force is either delayed until children reach school-age or the services of private institutions or baby-sitters are employed privately. This means the choice of returning to the work-force is influenced to a great deal by the prospective cost-efficiency of the arrangement, i.e. the prospective income of the working mother.

In the US and Australia the levels of and the system of schooling is quite similar. Primary education consists of 5+1 year (the one year being kindergarten), which means children between the ages of 5 and 12 years of age. This is followed by the three-year middle-school attending to the needs of 12-15 year-olds, and then by the three-year high-school which, upon graduation, provides a high-school diploma and as a function of SAT or ACT scores provides entrance and access to higher education. Although the content of the curriculum is sectioned in a similar manner in Hungary, a unique characteristic of the school-system is, that stages delineated by the curriculum-content do not mark the time of school transitions, i.e. curriculum content changes cut across the boundaries of institutions, which is a source of major confusion on the part of students and parents alike. For example, according to the national curriculum primary education lasts 6 years, but primary schools – as institutions – are usually organized as institutions consisting of 8 grades.

The main difference among the countries in stratification of the educational system stems from vocational training, although in all three countries the net enrolment rate is 86-87% (UNESCO, 2004 a,b,c). In the US and Australia vocational training is predominantly post-secondary, while in Hungary about a quarter of the students participate in vocational training as a part of secondary education, acquiring a status of skilled labourer during compulsory schooling – although future trends imply that in the long-run post-secondary vocational training will be the norm (most probably as a part of part-time adult education) (Halász & Lannert, 2003).

3. CHARACTERISTICS OF THE EDUCATIONAL SYSTEM IN COSTA RICA, THE PEOPLE'S REPUBLIC OF CHINA AND VIETNAM

All three countries are characterized by serious service provision difficulties in regard to education, which, in part, are financial in nature and a shortage in the number of trained school personnel, on the other. Never the less all three countries can boast with a net enrolment rate of 91-95% at the primary level (UNESCO, 2004 d,e,f), although if we cite other sources this might vary between 87-97% (UNESCO, 2006). There are differences in the duration of compulsory education starting with the 9-year compulsory education (including one year of kindergarten) in Vietnam on the one end, through the rather loosely handled 9 years in the People's Republic of China (PRC) to the compulsory ten years in Costa Rica – at the other end of the continuum.

There are great differences in how the different countries try to resolve the issue of compulsory education in spite of the great financial difficulties of the country. In *Costa Rica* – which is proud that it was the first country to instate compulsory and free education in 1869 – students are required to attend compulsory schooling for 10 years, including a year of kindergarten, the 6 grade-levels of primary schooling comprised of two three-year cycles and a third 3-year cycle which can be basic education or technical/vocational education. Its completion provides a certificate of general education. Statistics show, that in spite of all efforts, only 40 % of the age-appropriate cohort enters secondary schooling in Costa Rica if we do not include the third 3-year cycle of basic education as secondary schooling – as done by some statistics (UNESCO, 2004d). This is also reflected by school life-expectancy which is a mere 10 years 1 month, meaning that students drop out one month after reaching school-leaving age... On the other hand, if the third 3-year cycle is counted as a part of secondary education – as in the case of the report on Education for All (UNESCO, 2006), then the rate of secondary schooling might go up to 92%.

In *Vietnam* after reuniting the two parts of the country the largest challenge was to unify the different prevailing school-systems under the circumstances of

human resource shortage and deficient finances. The Education Law of 1979 aiming at unifying the differences in prevailing school-systems in the two parts of the country was completed in 1985. The Law on Education of 1998 stipulates that primary education (grades 1-5) plus a year of kindergarten are compulsory for children between the ages of 6 and 14 years of age. Lower secondary schools consist of four grades (grades 6-9), while upper secondary is a further three years (grades10-12). Net enrolment rates at primary school level vary between 90-96% depending on source of information with a relatively large difference between genders in favour of boys (generally 8-10% higher enrolment than girls) (UNESCO 2004e; UNESCO, 2006). One of the ways the government tries to battle scarcity of human resources is to introduce multi-grade classes (Hargreaves et al., 2001) – especially in rural areas, where 75% of the population lives (Aikman & Pridmore, 2001). The acceptably high net enrolment rate drops considerably when entering secondary education – namely in 2002 this was 65% (UNESCO, 2006). One of the main reasons behind this phenomenon is, that over and above the school books (that have to be paid for even at primary level), families have to subsidize education – in spite of their own scarce financial resources. Having said this, one must then come to the conclusion that Vietnamese families are putting a high value on education if school life-expectancy is 10.4 years, especially if we take into account that regulations leave the door open for early school-leaving, as only the completion of 5 grades of primary schooling is compulsory. Never the less these figures mean that the majority of school-age population – especially in rural areas is likely to be subject to child-labour or become street-children (Gallina & Masina, 2002). The above cited school-life expectancy figures also mean that there is a considerable strata, which continues schooling into upper secondary education, but they tend to choose grammar schooling which provides a high-school leaving diploma making entrance to higher education possible – only very few opt for technical schools teaching different trades. In order to increase the prestige of manual labour the new reforms stipulate that 15% of classes in primary schooling and 17% of classes in secondary schooling have to be utilized for teaching handicraft skills.

In the *People's Republic of China* a far different approach is utilized. In accordance with the huge size of the country and the great differences in financial affluence of different regions, the government has stratified its goals regarding compulsory education accordingly. In its Education Act of 1986 nine years of education was made compulsory (i.e. from ages 6-15 years) and a greater freedom was given to local authorities in setting up a new system of decentralized educational authorities (UNESCO, 2004f). The Act also differentiates the introduction of the nine-year compulsory schooling according to regions: the law is to be acted upon primarily in the more affluent and economically developed costal regions, effecting approximately 20% of the population, and in the larger towns at the medium-level developed regions of PRC, which affects about 50% of the population (UNESCO, 2006). The Act on Education provides a large degree of freedom in realizing the goals stipulated in the Act in inland PRC, the rural and economically backward regions (app. 45-50% of the population), where the goal is to popularize basic education and local governments have the freedom to introduce different compulsory levels according to economical growth, though the state will "do its best" to support the development of education. This means that in the less affluent regions only primary schooling is mandatory. Typically primary schools are 5 or 6 years of duration, while junior or middle secondary school is 4 or 3 years of length, which is followed by a 2-3 year senior high school – which in most cases would take the form of vocational training. Another way of handling human-resource and financial difficulties was the re-introduction of key-schools (UNESCO, 2006), which function as elite schools within the schooling system as the quality of teaching matches that of any other prestigious Western school or private school. High quality is partly ensured by the fact that all teachers employed in these schools are fully trained at the highest level available in the PRC. In the highly competitive atmosphere of the Chinese schooling system acceptance to key-schools is a function of teacher nomination and parental financial contribution. Key-schools can be likened to the prestigious grammar schools of Hungary which actively take part in teacher-training programmes of universities or the "brand name" prestigious private schools of Western societies.

In all the above countries vocational training poses great challenges. On the one hand it is to be made financially viable and on the other, sufficiently attractive to students by providing on-hands experience and being pragmatic, yet maintaining a level of training that provides versatile skills that will enable graduate students to accommodate to the diverse needs of the labour-market. One of the ways to provide for this is to integrate vocational training with production (Sing, 1998), which has the added advantage of shortening learning time – as only the necessary specific skills are taught – and thereby cutting costs. The drawback of this solution is that taught skills are not necessarily versatile enough. Another way of handling this challenge is to emphasize life-long learning and motivating persons to learn new skills in the case of unemployment.

II. SOCIALIZATION

1. THE CONCEPT: PROCESS AND PRODUCT

The study of socialization focuses on the development of an individual as a social being, as a participant of a society. One of the most often cited early definitions of socialization originates from Child (1954) who looks upon socialization as a process by which the individual learns behaviours that are acceptable and customary according to the standards of his (membership) group or as stated by Elkin (1960) – the individual learns the ways of a given society or a group within it well enough to efficiently function within it (Cole and Cole, 1997). These definitions emphasize the role of learning. Other definitions would tend to emphasize the social aspect of the process, namely that it is a patterning of actions on the part of social agents which inculcate in individuals the knowledge, skills and motives necessary to perform socially accepted roles (for a comprehensive review see Clausen, 1968). This latter definition places socialization in the field of social psychology by implying that the individual is induced to conform to the society or to the ways of the particular groups he is a member of.

When using the term "socialization" it usually also designates the authors' focus of interest: e.g. education, role-learning, occupational preparation, child rearing practices, adaptation to changing social demands, etc. It can encompass such varying fields as learning of skills, cognitive sets, acquisition of selfhood and language, learning moral norms and social roles.

Socialization as a process can be seen as inculcation, inducement, or motivation, as a process of social influence or that of coercive persuasion (Kelman, 1958). The theory of coercive persuasion neatly summarizes basic processes of not only persuasion, but those of socializing techniques, as well, making it possible to tie persuasion techniques to predominant learning processes involved. When talking about c*ompliance* the choice of a given behaviour is motivated by the presence of the socializing agent in the context of a situation where a relatively limited amount of

choices are available – and usually the socializing agent has the instrument of reward and punishment at his disposal. This situation is very characteristic of what happens in the case of conditioning – be it instrumental or classical: external forces of rewards and punishment impinge on the person to coerce (or if you like – motivate) him to comply and act in the given way. If we look at formal schooling, and analyze the role of the teacher – armed with legitimized power of reward and punishment – we may safely draw a conclusion that coercion-compliance are inherently given in this situation and teachers have to make conscious and systematic efforts if they want to utilize other forms of persuasion. In case of *identification* the choice of behaviour depends on how important the relationship is to the person and whether the agent has qualities that are important to the person to emulate. The process will be effective as long as the relationship is important to the influenced person. These characteristics of identification, as an act of persuasion, match the key aspects of modelling. *Internalization* processes take place when the persons involved share common values and the agent has more efficient means of acquiring goals than the person, thus the agent is perceived as more efficient in realizing goals that are in keeping with shared values and goals. This process of internalization will remain effective as long as norms and values are held in common, and as long as the agent is seen as more efficient in realizing goals. These processes of persuasion and socialization have their limits when it comes to their utility. These limits are posed by temporal issues of development. Namely, even the very young will be able to handle external cues of rewards and punishment, when identification processes cannot yet play a role. As development progresses identification processes begin to play an ever increasing role, but internalization can only become prevalent when coherent value systems develop as a result of conscious reflection and moral development. Socialization is deemed successful when the norms and values of society have been internalized to the full. This means that social control and socialization go hand in hand. They complement each other in reaching the goal of socialization of maintaining social order and achieving continuity in moral order and norms. The effectiveness of social control in the long-run depends on the transmission of social and moral norms and

on the widespread acceptance of the legitimacy of the norms and sanctions used to inculcate them. The outcome can henceforth be thought of as the "socialized" person, but then we have problems with defining the criteria by which we determine which behaviour patterns can be deemed as "socialized". A further question that arises is – would those behaviours not conforming to criteria then be called 'unsocialized' and would we say the person is 'unsocialized'?

This line of thought was followed by Diana Baumrind (1966) when identifying different parenting styles leading to markedly different outcomes in preschool children. A permissive style of parenting which is acceptant, non-punitive and affirmative regarding the child's impulses and desires results in child behaviours low on emotion-regulation, low persistence on challenging tasks and often rebellious and defiant when wishes are not fulfilled. The study identified authoritarian parenting attempting to shape and control child's behaviour according to a set, absolute standard with punitive reactions to disobedience as often resulting in anxious, withdrawn behaviour of the child and poor reactions to frustration, and according to results, authoritative parenting equally emphasizing autonomous self-will and disciplined conformity leading to the child's self-confident competent task resolution, lively and happy disposition (Baumrind, 1967).

In the process, as identified above, socializing agents play a crucial role. Yet, as described by the process view above, it can be approached from two different viewpoints: that of the socializing agent and that of the inductee. The difference of viewpoints is partially determined by the role relationship of the two persons and the modifiers primarily acting in the given situation. These modifiers of role relationship are numerous - the affective tie between the socializing agent and the inductee, the relative power of the agents versus the inductee and the relative responsibility of the two, the specificity (exclusiveness) of their relationship, explicitness and primacy of socialization aims against other aims, consonance of the goals of the agent and the inductee, their interpersonal skills and group and contextual supports versus opposition to the agent's aims and utilized methods. In early childhood socialization primary agents are the parents and the family exerting

efforts to control the scope of child's behaviours, to provide a measure of autonomy while offering guidance at the same time. A description of the process from the viewpoint of the child would emphasize the imposition of restraints and frustrations and that of exploration and accomplishments – which if praised afford gains in confidence and competence to the child. As long as the child's activities are confined to the family the imposition of socialization demands are largely dependent upon the convictions of the parents, or their ethnotheories as Kagitcitbasi (1996) frames it.

Over and above the question of control and conflicts arising as a result, socialization theories are moving in the direction of identifying ways to foster socially positive actions, and instead of focusing on behaviours alone, are increasingly conceptualizing ways in which cognition and emotion enter into socialization processes (Bugental & Goodnow, 2000). Also relatively new aspects are biological preparation for socialization as a co-evolutionary process. One of the many themes that have been in the forefront of attention is parental depression as a predisposing factor that influences the course of socialization (Keltikangas-Järvinen, et al., 2003; Merikangas, et al., 1998), on the other hand developments in behaviour genetics have also greatly influenced the way we perceive the covariance of parent-child interactions (Maccoby, 2000). In the light of longitudinal research performed by Plomin's research group (O'Connor et al., 1998), we can firmly say that it is a futile effort to compartmentalize the variance in children's characteristics into separate genetic and environmental components without getting independent measures of each – at this moment and time we can only say that genetic and environmental factors operate jointly to produce an outcome. The relative strength of each contribution is difficult to assess and to this day is almost entirely unknown in the large body of research literature on within-family socialization (Maccoby, 2000), although different twin studies and studies of adoptees unequivocally illustrate the presence of all three types of interactions between person and environment: evocative, reactive and proactive interaction. Reactive interaction occurs when different individuals exposed to the same environment experience, interpret and react to it in a different fashion. Evocative interaction occurs when an individual's personality evokes distinctive responses from

others. Proactive interaction occurs when individuals select or create environments of their own preference (Atkinson et al., 1999).

Society usually expects a significant proportion of children to acquire a certain amount of technical information – and this is achieved via formal instruction. Although a considerably amount of time is spent in formal schooling by youth, as studies point out, – in many societies – the quality of parent-child relationships, socialization goals, parenting styles and attitudes, ethnotheories (Sallay, 2003; Harkness and Super, 2006) will determine how much students will profit from it via the mediating role of future orientation. The vehicle of this is formal schooling. Although the aims and functions of society vary from one society to the next and educational aims for younger and older children are somewhat different, the most often found general societal functions of formal education are transmitting knowledge, norms, and values, along with all motivational and orientation underpinnings this requires.

The above line of thought emphasizes social learning in different environments and the role of social agents, but entrance into formal schooling also brings an increase in the different environments the child routinely encounters. The introduction of an ecological viewpoint to developmental psychology brought major changes in the scene as to how we perceive and understand the multiple social settings the child is a part of.

2. SOCIALIZATION FROM THE VIEWPOINT OF ECOLOGICAL PSYCHOLOGY

It was not until the 1930s that ecological psychology as a separate domain began to emerge through the work of Kurt Lewin (Lewin 1972). The primary assumption of ecological psychology emerged: behaviour is a function of the person and the environment, the unit of study being the natural environment. Although the basic premise of ecological psychology was retained, different theorists approached the ecological "problem" from different perspectives, placed along the continuum from a focus on the more subjective or psychological features of the environment to the more objective or social and physical features of it. According to Allport (1980) this difference in viewpoint is the one of being inside vs. outside the problem or, to put it another way, the ecological versus psychological gap between the actual and perceived environment. Within this framework of thought a further viewpoint emerges, namely, whether the theorist emphasizes the study of the individual or the group.

Utilizing the basic equitation: B= *f*(P,E) namely behaviour (B) is the outcome of the interaction between the person (P) and his environment (E), we can say that Lewin (1972) posited that behaviour is a function of the whole environment, including the interdependent interaction between the person and the environment, from which individuals generate subjective observations about the environment, themselves, and their behaviour. Utilizing the equitation above we can describe Lewin's viewpoint as the following: B= *f* (Perceived {Environment} x Individual {Person}). Lewin defined this psychological environment as a life-space which is interdependent with the non-psychological (objective) environment, but emphasized the importance of psychological environment as he maintained that the person's subjective experience of his objective physical environment generate patterns of actions and subsequently interaction between the individual and the environment. To summarize, changes in behaviour rely on modifications in how the individual perceives the environment.

The other end of the continuum can be described by the B=*f* (Actual {Environment} x Group {Person}) equitation. Theorists representing this

standpoint would contend Lewin's assertion that persons' momentary behaviour is determined by their life space to say, emphasizing that socialization and development are not momentary products, and thus not the people in the setting, but the setting itself is the important element thereby putting non-psychological or objective environment into the forefront (Carlson et al., 1980; Wicker, 1983). In addition to the physical attributes of behaviour settings, each setting comes with a set of rules and norms that define routine patterns of actions carried out by persons inhabiting the setting. These theorists argue that it is the setting itself, rather than the way it is perceived by the individuals, that calls forth certain types of behaviours. We refer to this process by saying "behave at school"...when the child leaves, although it is obvious to all concerned that the individual's satisfaction with the environment and goals set within it will affect the degree to which the rules of the setting do influence the individual's behaviour. By turning the table around on the viewpoints we take, this approach also delineates the fact that when individuals adept or adjust their behaviour, they are striving to retain the concordance or "good fit" with their environment. This type of interaction is envisioned in the work of Szitó (1991). The process then can be understood to incorporate the individual, who is impacted by changes in the environment and the evoked changes in the individual impact the environment. This continuous interplay serves to maintain the homeostasis within the individual's systems and subsystems.

Other theorists, more closely aligned with Bronfenbrenner's social ecological and person-process-context-time model (Bronfenbrenner, 1986) focus their work on delineating the environmental impact on the behaviour. This can be delineated in the following equitation B=*f* (Perceived {Environment} x Group {Person}). In this approach theorists make efforts to integrate physical and subjective features of the environment, thus it is called, the "perceived environment" (Trickett and Moos, 1973, 1974; Moos, 1984, 1987). According to this line of thought characteristics of environments can be precisely delineated, these characteristics shape individuals' behaviour in that environment, and the perception of these characteristics is the primary information source that substantially affect behaviour. While Moos and

colleagues (1984, 1987) focused on group perceptions as the unit of study, others emphasize individual differences in these perceptions and thus propose that the environment as an individual perception be the main unit of investigations (Schneider & Bartlett, 1970).

Social-systems ecological theorists posit a process that is conceptually very similar to original, foundational theories. Their standpoint can be conceptualized as following the equitation of: B=*f* (Actual + Perceived {Environment} x Individual + Group {Person}). Social-systems ecological theorists see behaviour as determined by both external and internal characteristics of the interaction between the environment and the individual. They also perceive that this interaction occurs in settings that have boundaries which can be circumscribed. Instead of looking at individuals in isolation from others or the objective components of a circumscribed setting in isolation from its relationship to other settings, they emphasize studying the totality of all interacting systems in which the individual functions, which serve as the individual's life-space. This approach not only recognizes the internal and external forces impacting the individual and determining his behaviour, but also emphasizes the need to acknowledge the reciprocal interrelations between individuals and the various systems in which they participate to be able to ascertain the direct and indirect factors impacting individuals' behaviour and functioning. The social-systems ecological approach then adds to its focus the multiple settings the individuals exist in, and how these multiple settings effect the individual's functioning within that given setting and within other settings.

Bronfenbrenner (1980) aimed to explain how the person's larger context -in which he functions- influences the reciprocal relationship of the individuals and how the dynamic properties of individuals' immediate settings where they live influence this interrelationship. He envisioned four embedded structures that reciprocally influence the individual in the given environment (see Fig. II-1.).

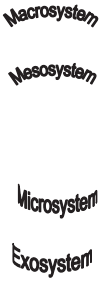


Figure II-1.. The ecological social-system as posited by Bronfenbrenner

The *microsystem* consists of the intimate aspects of the individual's development in the family, school, childcare services and workplace – including goal-directed behaviour, interpersonal relationships, and system-defined roles and experience. In case of a child, for example this would include the home, the school and peer relationships. Three dimensions need to be considered within the microsystem according to Bronfenbrenner (1986): a) the design of the physical space and materials within it, b) people with differing roles and relationships in connection with the child, and c) the activities that are involved in the interaction between the individual and others. The *mesosystem* consists of the links and interactions among and between the different elements of the individual's microsystems. This includes how school and home environments communicate with each other, for example the usage of parent-teacher association meetings and other forms of contact; or events in the home that influence the child's adaptive responsiveness in the school setting (e.g. the emotional stress of divorce). The elements and events of the *exosystem* do not directly effect the individual and are not directly effected by the individual. Institutions and events in this layer of the system include governmental agencies and institutions, policies affecting child-care and education, the welfare of families, the media, etc. The *macrosystem* is the "software" of the system comprised of the cultural

and societal belief systems, underlying ideologies that are present at other levels implicitly and explicitly and inherently influence individuals' functioning within their microsystems. The *chronosystem*, added later to the original theory, encompasses time as related to the child's environment. It can be seen as historical time influencing the connotation of childhood and theories relating to it influencing child-rearing practices, but it also can be seen as those external elements that influence the child's development e.g. the timing of the divorce of parents, but it also includes elements internal to the individual, namely physiological changes that occur with the aging of the child. The interplay of different systems is well documented in a three-year longitudinal study of the effects of a community school, which effectively differentiated between the layers of the system, with an increasing effect of the educational programme as a function of time (Jones & Falkenberg, 1990).

In connecting the theory to how we view development and successful socialization outcomes, Bronfenbrenner (1990) formulated five propositions. In the first proposition, he emphasizes that the child needs an increasingly *complex reciprocal interaction* with persons in his environment with whom he has developed a strong, mutual emotional attachment in order to develop. Bronfenbrenner (1990) also adds that persons interacting with the child have to be committed to the child's welfare and well-being, preferably for life. The second proposition underscores that the complex reciprocal interpersonal interaction with the mutually emotionally attached caregiver needs to be *effectively patterned* in order to increase the child's responsiveness to the physical, social and symbolic environment that invite and increase manipulation, exploration and imagination – which accelerate the child's psychological growth. Thirdly, he emphasizes that the success of the previous two processes depend to a large extent on the presence of a *third party*, who provides moral and emotional support to the primary caregiver, thereby increasing the stability of the system. The fourth element stressed is, that the efficiency of the socialization processes in different settings are a function of the patterns of exchange of information between the principle settings of the child's life (mesosystem), which serves to build and maintain *mutual trust* between the agents of the different settings

enhancing *mutual accommodation* among the different settings. In order for the primary settings to be effective exo- and macrosystem elements need to be in harmony. This is formulated in the fifth proposition which states, that public policies and practices need to provide the place, time, stability, status, recognition, belief-systems and actions that support child-rearing activities in its broadest sense, including individuals providing support to and supplement the activities of primary caregivers.

As mentioned previously, the adage of the chronosystem provides for temporal space in the ecological system thus changes resulting from mutual accommodation and age-related developmental changes both are envisioned as ecological transitions occurring in the ecological environment. As such, the transition from one role or setting to another can be characterized as individuals attempt to both accommodate and adjust to the changing environmental situation, and thus can be further conceived of as individuals' attempts to maintain homeostasis within their environment. These periods of transitions – of adaptation and adjustment – occur each time an individual encounters a new environment or age-related developmental changes bring about change in individuals' positions and roles.

3. CULTURE AND THE ECOLOGICAL VIEWPOINT OF SOCIALIZATION

Parallel to the introduction of ecological viewpoints, the idea of cultural elements determining the context was introduced and as a result an *ecocultural* framework in which socialization practices influence development came to the forefront. How is then culture defined? One of the persons most cited in this regard and the first one making an attempt to define culture was Herskovits in 1948 (Segall et al., 1990), who said culture is nothing but "the man-made part of the environment". Other characteristics of culture proposed by different definitions are: "traditional ideas and especially their attached values", "the mass of learned behaviour passing through generations", "shared symbols and meanings", "different

experiences of groups that lead to predictable and significant differences in behaviour", "a superordinate organizer with a pervasive influence on its constituent elements" (Kagitcibasi, 1996), and Hofstede (1994) identified it as the collective programming of the mind that a group of people have developed over time as a result of their interaction together and with their environment, which provides a complex frame of reference that consists of patterns of traditions, beliefs, values, norms, symbols, and meanings that are shared to varying degrees by interacting members of a community. Culture has many facets, as we can talk about culture on a national level which then is a specificity of the individuals and groups within a country, but we may also talk about regional, professional, corporate or organizational culture, as well.

Cultural psychology brings a new perspective to the research of childhood socialization and the ecological perspective, as well – albeit because of its all-encompassing nature – it brings its problems, as well.

One of the problems to be addressed is, that if a cultural perspective is taken, it is all too easy to fall into the trap of tautologies – which can happen, when culture is treated as an independent variable in itself, thus it needs to be operationalized. One way to achieve this is to conceptualize culture as a set of shared constraints that determine what behaviour repertoire is available under given circumstances to a certain social-cultural group (Poortinga, 1992). Another issue is how we approach culture as an entity – as a member of the in-group or as a member of another culture? According to this distinction the differing viewpoints authors tend to take differentiate between cultural and cross-cultural psychology (Segall et al., 1990). Cultural psychology denoting the viewpoint when the researcher is a part of the culture in the focus of research, and the concept of cross-cultural research is reserved for delineating the situation when the researcher is not a member of the culture(s) under investigation. This thought is expanded and generalized by Segall et al. (1990), when analyzing the relationship between the methods of the research and the culture – indicating an "emic" approach when tools utilized are relevant in the framework if the given culture or stratum, developed utilising dimensions relevant

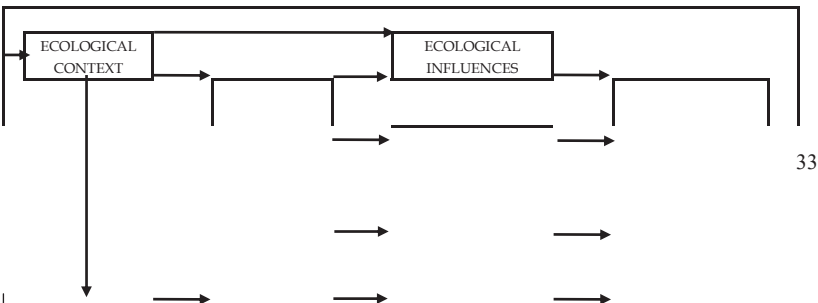
in the culture, and an "etic" approach evident inasmuch as the questionnaires and methods employed were developed in another culture. As Kagitcibasi (1996) points out, this differentiation is made on the basis of two meaningful standpoints. Namely one emphasizing the uniqueness of concepts in each cultural context as they derive their meanings from these contexts which is represented by an idiographic, hermeneutic, emic, indigenous, relativist viewpoint – with the study of variability and uniqueness being studied in its own rights from within the culture (for an example see Shweder et al, 1998); the other emphasizing similarities attempting to find the universal, "typical" employing a nomothetic, positivist, etic, universalistic approach (best exemplified by the original work of Piaget). The former viewpoint representing a cultural, the latter implying a cross-cultural one. Many feel these are two perspectives which are mutually exclusive, while others attest to the belief that these two should be handled as complementary ones (Kagitcibasi, 1996). The same tensions are noted by Nguyen Luu (2003) emphasizing differences regarding methodological issues, the most basic being that cross-cultural psychology in the process of comparison identifies well-circumscribed variables resulting from "unwrapping" culture, looking for cause-effect relationships, while cultural psychology looks upon culture as an undividable unit, trying to understand behaviour in its own context, thus mutually defined concepts and connotation will be in the centre of attention.

If the goal of socialization processes is to teach, inculcate certain behaviours acceptable and expected in a given social-group sharing common cultural values, then what is the relationship between exhibited behaviours and culture? Lonner and Adamopoulos (1997) – in the spirit of cross-cultural psychology – as a result of an extensive review of available literature come to the conclusion that there are four types of possible relationships between culture as an antecedent and behaviour as a consequence. In the first case culture is treated as a complex independent variable directly influencing behaviour – this approach being characteristic of orthodox cross-cultural psychology. In the second instance culture serves as an umbrella concept, providing a context of and framework for interpretation of behaviour, culture being

the primary, albeit indirect cause of behaviour. The third approach circumscribes a secondary role to culture. According to this viewpoint culture is a mediating variable between behaviour and some other variable, which has a direct effect on behaviour itself. The fourth possible way of conceptualizing the role of culture is when culture is looked upon as a moderator of the relationship between two variables. According to this stance culture plays a secondary role as it primarily influences the variables studied and the way their relationship develops.

The most comprehensive and generalized model provided on the ecocultural framework of human behaviour is described by Berry (Segall et al., 1990) giving a framework for conceptualizing population and individual level variables depicted on Figure II.2.

Acculturation occurs every time the individual faces changes in the cultural environment. This can be due to entering the majority culture as a minority (e.g. the first encounters of formal schooling), when travelling or as a result of emigration/immigration (all becoming common practice in the 21st century), but this is a natural consequence of developments during the life-span as the environments the person interacts with change and the person as a result accommodates to changing expectations and norms – although these are seen by some as adaptive functions. Adaptive processes occur as a result of the different functions of culture. The most important function of culture is the definition of identity and selfhood, the way persons see themselves, the categories they use to define themselves (Kitayama et al., 1997), it also determines which groups persons belong to (the groups identified) and the way group boundaries are regulated (Kitayama, 2002), it also facilitates ways persons adapt to ecological environment (Heine, 2001) and by rewarding preferred modes of adaptation it also regulates it.



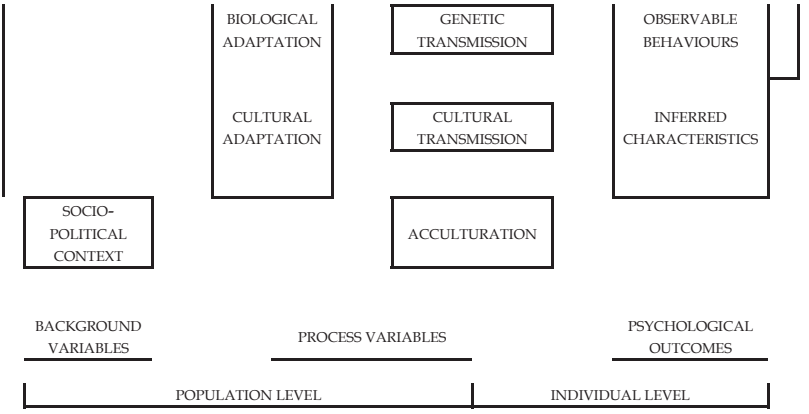


Figure II.-2. The eco-cultural model (from Segall et al. 1990. p. 19)

In an extensive overview of theories linking culture and psychology Cooper and Denner (1998) grouped theories under seven subthemes: a) ecological theories that identify culture as a context of psychological processes (e.g. Bronfenbrenner's work), b) cultural-ecological theories that aim to aid understanding adaptation processes in societies (e.g. Ogbu, 1993), c) social identity theories that utilize culture as a framework for understanding intergroup relations (e.g. Berry et al., 1997; Tajfel [Smith & Mackie, 2001]) emphasizing that social identity is achieved through categorization and recategorization in the context of attitudes towards one's own group trying to find an optimal equilibrium between inclusiveness, uniqueness and an optimal level of distinctiveness, d) sociocultural theories in which culture is seen as an adaptive tool (e.g. the concept of developmental niche by Super and Harkness [1986]), e) theories with their roots in sociology that emphasize that culture is a capital that persons can draw upon to successfully cope with impoverished means, f) with increasing mobility immigration and emigration growing, theories like "cultural mismatch" and "multiple worlds" utilize cultural navigation abilities to understand success (and failure) in adapting to the new environment and finally, but not least g) theories that treat culture as a set of core values and aim to identify meaningful

clusters and interactions, e.g., Kitayama & Markus (1994) are representatives of this approach, as well as the work of Hofstede which we will expand on.

Many attempts have been made to identify and classify cultural patterns. The first being Hall (1987) who identified three dimensions on which cultures fundamentally differ from each other: the way space (personal and physical) and time (monochronic vs. polychronic) is used, and the importance of context in communication (high vs. low context). If a culture handles time in a monochronic fashion then time is inflexible, schedules are more important than personal ties, it is an important element in coordinating efforts and activities are performed sequentially and output time is important – polychronic time concept is just the opposite. In low-context communication explicit verbal utterances are relied upon for conveying meaning, implying a certain amount of bluntness in communication. The major barrier in the application of these dimensions is that they have not been verified by research – although easily observable and common everyday experiences may well validate their usefulness. Trompenaars and Hampden-Turner (1997) characterize cultures according to a mix value and behaviour patterns identifying seven different dimensions of differentiation: a) universalism-particularism addressing the question whether universally applicable explicit rules or trusting relationships are more important; b) communitarianism versus individualism depicting the relative importance of group goals and interests over individual ones; c)neutral versus emotional delineating the degree of acceptance of open expression of feelings and emotions; d) diffuse versus specific cultures relating to the range of involvement in different settings; e) achievement versus ascription dimension reflects whether status in society is based on achievements versus being ascribed; f) human-time relationship relates to how time is handled in regard to human ties and relationship (very similar to Hall's concept of monochronic/polychronic time);and g) human-nature relationship reflects how individuals relate to nature as being a given attribute or more as an element of environment to be manipulated on. One of the outcomes of the above mentioned research to be commented on is the fact that many elements seem to be situation specific. Hofstede derived his culture dimensions from

examining work-related values in employees of IBM during the 1970s. In his original work Hofstede (1994) identified four dimensions to describe culture-level characteristics: power distance, individualism/collectivism, masculinity/femininity and uncertainty avoidance. *Power distance* is often reflected in the hierarchical organisation of companies, the respect that is expected to be shown by the student towards her or his teacher, by the belief in society that inequalities among people should be minimised or to be expected and deemed desirable. The dimension of *Individualism/Collectivism* is one of the most frequently discussed and researched concepts, defined as to the extent a person is to look after himself or herself and his or her immediate family versus being integrated into strong, cohesive in-groups from birth tying the individual into unquestioning loyalty, the interest of the group being unquestionably more important than the individual's. It also defines the way responsibility is understood to be predominantly directed towards oneself or towards the whole group. *Masculinity/Femininity* refers to what extent social gender roles are distinct (masculinity) or overlapping (femininity). It also reflects the extent to which achievement versus relationship orientation is seen as a value, assertiveness or modesty is the norm when it comes to achievements. *Uncertainty avoidance* - the final dimension present in Hofstede's original work – reflects whether persons tend to feel threatened by unknown and uncertain situations (uncertainty avoidance is high) or not. This dimension may be conceptualized to be influenced by the predominant outlook on life determined to a great extent by religion – not only regarding its prevalence but also as a function of how profound it is. The fifth dimension was added later as a result of the cooperation between Hofstede and Bond, which is *short- vs. long-term orientation*. Long-term orientation is characterised by persistence, ordering relationships by status and observing this order, thrift, and having a sense of shame, whereas short-term orientation is characterised by personal steadiness and stability, protecting your "face", respect for tradition and reciprocation of greetings, favours, and gifts. The work of Hofstede is probably the most popular work in the arena of culture research, partly because it is grounded in

extensive research and is found particularly useful, as it reduces the complexities of culture and its interactions into five relatively easily understood cultural dimensions.

4. THE DEVELOPMENTAL MICRO-NICHE AND FAMILY MODELS

We have now had a brief look at the concepts of socialization, ecological and cultural aspects within psychology. As Cooper and Denner (1998) point out, the concept of developmental niche integrates all the above mentioned aspects, emphasizing that the concept successfully "unwrapped" culture and firmly places it among the universalistic approaches of ecocultural psychology. The developmental niche as identified by Super and Harkness (1986) emphasizes the interdependent nature of socialization – the two-way interaction of the child and its environment. The developmental niche includes the social and physical environment of the child, the informal and formal socializing and parenting processes as defined by culture and society and the psychological characteristics of the parents and the child. Rogoff and her associates (1982,1993) work can be seen as an extension of the original ethnographic approach utilized by Super and Harkness by adding guided participation episodes into the observation procedure. These ethnographic studies follow two main procedures: observing the subject in the different environments and during the different activities throughout the settings or performing observations according to a previously determined time/activity schedule. Either procedure inherently opens the way to observer distortions, which can only be overcome by experimental methods (Cole & Cole, 1997).

When we take a closer look at the steps involved in the socialization process we find that research tends to centre on primary socialization processes with a low-key interest in formal socialization processes, although some research can be found (Bugental & Goodnow, 2000). This is in spite the fact that most countries aiming at having at least 95% of school aged population participating in compulsory formal schooling. If we take the steps in processing socialization episodes into account in the

formal socialization setting (e.g. schools) we can see that the first step of the process is *expressing and indicating expectations*. Expectations are formulated on the basis of the conscious and unconscious goals of the socializing agent. The conscious part of the process is equally shaped by cultural norms and formal documents concerning education, while unconscious elements form the part of expressions that are shaped by forces determining person- and situation perception and evaluation in interdependence with person's own defence processes which are often depicted as Pygmalion effect and shaped by the shadow curriculum influenced by values of the organization and its staff.

The second step is when the *inductee notices, interprets and encodes the expectations*. This process is dependent upon numerous variables: consistency, consensus and uniqueness of the expectation in the given situation – especially when compared to how consonant it is with the group's expectations and norms, furthermore whether it is perceived as being consonant with own aims and goals, as well as whether it is deemed threatening to self-esteem and peer-group acceptance (the importance of this latter is a function of age), to what extent a self-situation discrepancy is perceived. Based on attribution theory and cognitive information processing theories (Smith and Mackie, 2001) we may safely assume, that higher the consensus, consistency, consonance with group and own norms, aims and expectations and lower the perceived discrepancy and threat perceived the more shallow the processing of information will be, the higher the probability that a well-established script will be utilized.

In the third step the *inductee adopts a stance* regarding perceived expectations. This is dependent on the subjective importance of the given case, the importance of the involved goal or aim to the inductee, on the felt need for self justification – or saving face for that matter -, especially if peer pressure plays significant in the situation. The second and third step is sensitive to the subjective importance of the relationship to the inductee. This is a decision on the part of the inductee to comply or resist socializing pressures - the form of resistance may be active or passive. Even more important is the fact that in some cases resistance to socializing pressures fro

one group may increase solidarity (and or acceptance) by another group. This is to be taken into account by the inductee, as well.

The *inductee indicates the stance taken and others provide feedback* on their interpretation of it. The evaluation of the stance taken by the inductee is likely to be subjectively appreciated along a cooperation/harmony versus competition/opposition dimension. Once again, depending on the features of the situation (mentioned in step two) self- and system justification processes may ensue if the situation is otherwise deemed as threatening to the self on the part of the agent. As the outcome of this process, positions may become entrenched (especially if the inductee makes a blatant response) or the agent may make attempts at reducing the original difference and distance between positions.

The construal of self in the micro-niche is dependent upon: feed-back from care-takers which can vary in numbers according to traditions and culture (Ladd, 1999), the quality and quantity of feed-back (Maccoby, 2000; Keltikangas-Jarvinen et al., 2003), emotional ties with the care-taker(s) (Choi & Kim, 2004), others' reactions to the person (Kagitcibasi, 1982; Harlness & Super, 2006;), quality and quantity of experiences provided (Trommsdorff et al., 2005; Miller, 2005; Olson et al., 2000), the importance attached to compliance by the environment (Le & Stockdale, 2005; Ho, 2004), the quality of and quantity relationships within the community (Pooley et al., 2002), evaluative reactions to the self (Heine, 2001; Dandy & Nettelbeck, 2002; Phan, 2005; Cacioppo & Gardner, 1999), comparisons made with others (Wang, 2004), the dimension utilised in comparisons (Farmer & Farmer, 1999), the way comparative others are chosen (Fülöp, 2001), parental domain-specific beliefs, parental ideas regarding appropriate practices and outcomes and many more elements (Super, 1989; Choi & Kim, 2004; Harkness & Super, 2006). Although in the majority of countries around the world compulsory education is present – relatively few studies have undertaken the analysis of the effects of school-environment – and if so it is done from the viewpoint of the teacher or that of abnormal psychology (Felder, 1996; Ho, 2004; Jones and Wheatley, 1990). A few studies attempted to delineate the perceptions of students regarding their environment as structured by instructional

methods adopted by teachers, and its effects on students' academic self-esteem, future plans as depicted by choice of vocation where individual preferences of style – as a mediating element was taken into account (Katona & Szitó, 1999; Katona, 2000). Further studies have implied that individuals' subjective perceptions of goodness of fit in instructional contexts could serve as a (Katona & Oakland, 1999) mediating element.

A more detailed and systematic description of family-child relations is provided by Kagitcibasi (1996) and is conceptualized that the child's self-construal within this family context as it is embedded in the social-cultural environment. According to this model the culture of the micro-niche and living conditions – as determined by level of affluence, socioeconomic status and urban-rural life-style – and the structure of the family interact with each other. Main elements of family structure include family type (nuclear vs. extended), sources of wealth, woman's status, fertility (typically preferred number of children) and family ties. All these elements in interdependence with each other determine the typical family structure within the given developmental niche as embedded in the given society and culture. The developmental niche of the child as described by the context specified above (culture, living conditions and family structure) will define the family system to a great extent. The family system comprises family values and interaction-socialization practices which mutually interact with each other. Family values incorporate gender preferences regarding offspring, the value of children per se, values attached to independence versus interdependence, typical emotional and material investments in family life and loyalties among family members. These, in concordance with each other, determine the existence of subsystems within the family and their relationship. Although family values often remain implicit, these manifest themselves in behaviours fuelled by preferences for parenting style and child-rearing orientation. Family values and family structure jointly determine processes that shape the development of self-construal in the context of self-other relations as characterized by intergenerational and interpersonal independence or interdependence.

Cross-cultural studies highlight the importance of socio-economic contexts in modifying this general model via the mediation of the value of children. Based on the utilitarian value of the child in the family Kagitcibasi (1996) identified three characteristic family models which are derived from socio-economic contexts via the economic and psychological value of children within the family – thus influencing child-bearing willingness or fertility: a) family interdependence, b) family model of independence and c) the family model of psychological interdependence.

According to the line of thought emphasizing the functional elements of economic and social environment, the *family model of interdependence* will be characteristic of family functioning in contexts where families are less affluent. In these contexts parents usually do not have the means to secure old-age benefits or insurance. Often these families live in agrarian areas or are low-income semi-urban or urban families. Under these circumstances children work from on early age within the family or outside performing some menial work and children are expected to contribute to the family economy from relatively early age. It also means that the work of the child is taken for granted – and children will be more motivated by parents to take up their place in the labour-market than in schools getting an education. This state of affairs also means that there is a dependence on children not only in their youth, but as parents age and children grow–up they are expected – as adults – to provide for their elderly parents. As a result fertility is the highest in this context, because the higher the number of children the more the material benefits are – which are additive by nature – thus also providing for higher security. Underscoring the need for high fertility is the fact that under the conditions of poverty, child mortality is high. Having a number of children is a source of security – making sure that enough children survive into adulthood to support aged parents – at the same time burdening the individual child less (responsibility for and costs of supporting aged parents is spread among a number of children, instead of burdening only one or two). As a result of the processes described above, obedience and conformity represent a positive value in these families and parenting styles tend to reinforce behaviours conforming to expectations. By emphasizing the value of

conformity and obedience the likelihood that the offspring will pursue goals in conflict with those of the family will be diminished, thus family obligations are more likely to be met and the assigned role of providing security to elderly parents fulfilled. This interdependence is an intergenerational interdependence where roles assigned to members change during the family life-cycle. When children are young, they depend on their parents – and this dependence is seen as an important value – this role allocation is reversed as children mature and parent age. This ingrained dependence is the bond that warrants grown-up children fulfilling their role as providers of not only their own families, but their family of origin, as well. As a result the values attached to different genders of offspring will be differentiated as well – as a function of the culture. In patriarchal societies girls – when married – become a part of their spouses family, thus will not be a provider in an economic sense to their own family of origin. The reverse is true for boys. As a result, male children will have a higher value for the family of origin in the family model of interdependence in patriarchal societies, as they will be the providers for the elderly parents (while girls will play this role in a matriarchal society – thus have a higher value for the family of origin). At the same time it will be highly culture specific how the "value" of genders is expressed. Even in societies where the bride becomes the asset of the spouse's family the loss of a working hand contributing to the economy of the family of origin may be emphasized (e.g. by the fact that the groom has to pay the "price" of the bride as set by the family of origin, to offset the gains the family of origin will l have to forgo) or family affluence and the costs of upkeep of the bride may come to the forefront (e.g. by the dowry that is given with the bride signifying the affluence of the family of origin and/or to offset the costs incurred by having one more mouth to feed in the new family – also implying that the costs are higher than the gains produced by the extra working hand within the family). What kind of self-construal would prevail under these conditions? As submissive obedience is reinforced, the individual is expected to follow guidelines provided by others and the individual grows to expect guidelines to be provided by agents other than the self. This is very similar to what Piaget (Cole & Cole, 1997) posits under

heteronomous morality, which also emphasizes that disobeying rules will automatically result in punishment and disapproval from the authorities who have set the norms and rules, which cannot be altered or modified, and the individual lacks volitional agency (autonomy). At the same time there is a high degree of connectedness and relatedness present, the most salient in-group being the extended family, where the intergenerational dependence of members in alternating roles of provider and dependant provide a sense of continuity. This is reinforced by the way the given culture views marriage and the linking of the new couple to an existing family system (e.g. women by marriage become the member of the spouse's family) and the way the culture expects its members to take care of their family of origin.

Although these are statements regarding the individual level of functioning, we may also safely state that social-economic contexts may be generalized – as done by UN statistics characterizing the economic development of a country by GDP. As socio-economic contexts and culture, defining basic values of a society, are in constant interaction with each other we may safely generalize the above line of thought to more complex units of society. Thus where the given culture is embedded in an overall context of poverty we may expect the family model of interdependence to prevail – but by saying this we must hastily add that this does not assume that there is no variation within the given context according to financial affluence.

In stark contrast with the model delineated above, the family model of independence prevails in urban, middle-class families. In this context having children is no longer a form of investment in future security, neither are working hands needed in the family in the form of child-labour. Children – in the family model of independence – become more of a cost to the family in the material sense and mainly fulfil psychological needs of parents. Psychological needs of love, joy and pride is quickly fulfilled by even one child – thus there is no drive to have many children – as benefits are quickly outweighed by costs. This is furthered by the fact that old-age security benefits and pensions for aging and elderly parents are readily available in this social-economic context, thus the roles of provider an dependent are not necessarily reversed during the family life-cycle. Objective conditions thus make

it possible for the value of independence and autonomy to emerge as basic values in the socializing process, child-rearing practices and parenting styles will adjust accordingly to foster autonomy, initiative and independence. Once again, as the objective conditions support independence – we may safely say that due to the interdependence of socio-economic contexts and culture – cultural values emphasizing independent and autonomous individuals will prevail. We would like to emphasize, that the overall contextual characteristics will influence the frequency distribution of the family model of independence, while by no means ruling out individual variations according to affluence. In the family model of independence the child reaching adulthood is considered the possible beginning of a new nuclear family standing apart and separate from the family of origin. Under these circumstances an independent, autonomous self-construal is envisaged, in which parenting styles characterized by high levels of permissiveness, reinforcing individual initiatives, providing for volition and autonomous decisions prevail and self-reliance is the norm. In an affluent society (especially in North-America and Northern Europe) the family of origin may even expect the child reaching adulthood to move out of their parents' home, separateness being seen as a prerequisite for "healthy" development.

Based on these models one would expect that the more affluent the society is the more one can witness a shift from the traditional family model of interdependence prevalent in rural societies to the family model of independence, characteristic of urban societies. (Underlying this shift is the phenomenon of increasing urbanization with growing economic affluence.) Kagitcibasi (1996) pointed out that in some countries the third model, the family model of psychological interdependence is characteristic. This is corroborated by the "Value of Children" study involving fifteen countries and led by Trommsdorff (Trommsdorff et al, 2005) which pointed out that in societies where closely knit family ties are prevalent and connectedness is an important value, economic growth – securing old-age benefits – results in the emergence of this third type of family model. The family model of psychological interrelatedness is a unique mixture of the previously

described two models. Although there is no economic pressure on the offspring to contribute to family economy and there is a decreased material interdependence as old-age pension becomes available for parents, the goal of socialization is not separated independence, but rather – interdependence, which is now only of psychological and not financial/material in nature. Preferred values and parenting styles adapt accordingly and as the autonomy of the child is not seen as a threat to family livelihood, personal agency is emphasized and so are its resulting responsibility for actions and outcomes. At the same time parental control is still a valued element and is seen as necessary element in regulating psychological interdependence, providing order and ensuring the process of autonomous-relational self-construal. In this model a relational collectivism is maintained – as opposed to normative collectivism where the individual is subordinate to the group and high power distance prevails (as in the family model of interrelatedness). Current day developments in the economic sphere and its effects on parenting processes and incorporated family values are well exemplified by the study of Sallay & Dalbert (2002) which pinpoint differences in parenting styles and underlying values attributable to differences in economic growth, i.e. conflict associated with conformity-orientation of parents in Hungary vs. conflict-ridden families where rule oriented parenting styles, which prevail in Germany.

These family models not only further our understanding of how and why a certain-type of self-construal emerges, but also provide us with a functional perspective of interdependent adaptation processes in environmental and individual outcomes. This model may also be envisaged as providing insight to self-construal. Parenting styles preferred in interdependent family models would enhance the development of less complex and albeit less flexible self-systems (Sallay, 2001), as the scope of individual initiatives are limited and as there are well-defined expectations regarding the role of the child in the system - one might expect a high amount of clarity. Based on research on parenting styles we can safely state that qualities that can be envisioned as qualifiers of interpersonal distancing (e.g. positive motional ties and parental warmth) play an important role in the development of healthy self-

systems (Sallay & Münnich, 1999) when the family model of psychological interdependence prevails. This is corroborated by findings that associate order-setting control and parental warmth with autonomous self-construal (Smith et al., 2006). These family models can be viewed as mediating between the individual and the society and may be mapped onto characteristics which project that in agrarian, rural societies collectivistic cultural values prevail, parenting styles enforce responsibility, obedience and a respect for traditions as introducing new unproven technologies may well endanger the livelihood of the extended family, while in hunting-gathering societies which are more individualistic, parenting styles reward individual initiatives and achievement – the risks involved tend to be a risk for the individual (Berry et al., 1997), thus independence is emphasized. The difference in overall contexts for families is similar in less affluent vs. affluent socio-economic conditions. Namely, the less affluent a country is, families living in poverty are more frequent and all members of the family have to contribute to the family economy to make a livelihood. In these social conditions extended kinship is strengthened by mutual interrelatedness and interdependence – setting the stage for collectivist values. In affluent economic contexts – on the other hand – the economic/utilitarian value of children is diminished, primarily psychological needs of parents are met via family life, having children is no longer an economic solution in securing old-age benefits, the individual standing alone is able to create and produce all necessary prerequisites for life-long well-being and financial security. This emphasis on individual accomplishments lends itself to individualistic cultures, where parenting styles would emphasize autonomy and separateness of the child as he reaches late-adolescence, utilizing socializing practices geared to this end. On an individual level these processes may be conceptualized as allocentric or idiocentric self-construal (KItayama et al., 1997). In collectivist cultures people from birth onwards are integrated into strong, cohesive in-groups, often extended families (with uncles, aunts and grandparents) which continue protecting them in exchange for unquestioning loyalty. This strong involvement in the group even defines the way persons define themselves – allocentric definition of self – and means that group

interests are more important to them than their self-interest (Phan, 2005). This means that – although outright expression of emotions may not be acceptable – precise recognition and identification of feelings and emotions play an important role in being able to maintain harmonious group relationships (Kashima et al., 2006).

Family models and the values prevalent in the family in interdependence with social-economic variables play an important role in defining attitudes towards education. In less affluent societies finances available to society usually do not make compulsory education available truly "free of charge" – thus further burdening families that are less well-off anyway. This fact also encourages families not to comply with rules regarding compulsory education, as not only do they lose a working hand contributing to family economy if the child(ren) attend school, but further financial sacrifices also have to be made by buying school books and apparel. Thus attitudes towards formal schooling are at best ambivalent. Unfavourable attitudes are reinforced by the fact that the majority of jobs available on the labour-market also tend to be very simple, not requiring high-level of education – and underpaid. The cost-effectiveness of education is seen unfavourable partly due to the high costs associated with it, and partly due to the fairly low availability of well-paid jobs necessitating a higher level of training. This also strengthens the utilitarian value of children – but it also contributes to the subsistence of prevailing inequalities. As the economy of a society develops and economic growth becomes general labour-market needs change more and more offering better-paid jobs for those having higher levels of job-skills and training.

If we look at the self as construed as a result of expectations of and feed-back from the micro-niche we also must point to the fact that cross-national and cross-cultural studies are not to be confounded, as pointed out by many a researcher in the field of cultural and cross-cultural psychology (Albaum,& Baker, 2005). Never the less we may say that in this specific case, although for the sake of simplicity we will refer to samples from countries by the name of the countries, we are only too aware that sample sizes do not even attempt to give a full picture of such complex nations as US and Australia, which can be considered a melting-pot of nations and cultures.

III. PERSONALITY CONSTRUCTS IN A CROSS-CULTURAL & CROSS NATIONAL PERSPECTIVE

As the utilized questionnaire is based on student style theories conceptualizing temperament-based qualities as basic elements of personality with predictive value, let us have a brief look at this sphere.

Mankind has always strived to understand others' behaviour. Hippocrates in 4th century B.C. was the first to try and unravel the mystery of human behaviour, by proposing that different body humours (i.e., yellow and black bile, blood, and phlegm) and the combinations of these will determine the person's preferences in reactions to the world, and by this becoming an early forerunner of neurochemical theories. Galen went a step further by examining possible combinations of the four humours and depicting four ideal types where the different humours combine in an ideal balance. Galen described temperamental qualities as one pair of qualities dominating the complementary pair. On the basis of possible combinations he described four temperament qualities. The sad and anxious melancholic type has too much black bile. If too much yellow bile is present the person becomes a choleric type, which makes the person angry and irritable. Enthusiastic and pleasant qualities are present where blood is the primary humour, which is none other that the sanguine type, while too much phlegm will make the person slow in actions and reactions – a characteristic of the phlegmatic type. Kant took a step forward by postulating that these qualities combine and constitute two bi-polar dimensions of energy (choleric vs. phlegmatic) and emotionality (sanguine vs. melancholic) (Carver and Scheier, 1998). As we examine further developments we can formulate two questions: a) how do genetically determined characteristics contribute to personality as perceived by others and the person himself, and b) what kind of constructs are postulated in describing personality?

1. THE ROLE OF BIOLOGICALLY DETERMINED DIFFERENCES

More current day theories regarding temperament tend to agree that temperament – although biologically based – refers to a set of related traits, rather than a single trait and emphasizes behavioural continuity. Despite an emphasis on continuity, temperament traits are looked upon as malleable by environmental forces and do not refer to discrete behaviours, but to biases towards certain dispositions, attitudes and preferences in utilizing differential explanatory principles (Funder, 2001; Pesonen et al, 2003). In regards to identifying biological bases Strelau developed his temperament questionnaires (STI) (Strelau, 1983; Strelau, 1996;) using the original Pavlovian concepts of strength, balance and mobility of the nervous system serving as a biological basis of temperament. Later he refined this with his colleagues to the more sophisticated FCB-TI utilizing six scales; (Strelau & Zawadzki, 1993, 1995) and tested it in cross-cultural studies (Strelau & Angleitner, 1994). According to his theoretical work these interactions determine personality with reactivity playing an important role in determining the magnitude of the effect of the environment.

The work of Thomas and Chess in the 1950-ies on the New York Longitudinal Studies [NYLS] (Thomas and Chess, 1977; Thomas et al. 1963) brought the concept of temperament as a hereditary, identified set of individual differences into the forefront again. As a result of research utilizing questionnaires and observation techniques, individual variations in activity level, distractibility, biological rhythmicity, emotional intensity, speed of adaptability to environmental change, strength of initial approach tendency in new social situations, persistence and mood were evaluated for infants and young children.

This construct of temperament inspired an upsurge of research whereby evidence continues to accumulate to suggest that temperament variables are highly predictive constructs of developmental psychopathology of children (Merikangas et al., 1998; Rothbart & Jones, 1998; Mischel & Shoda, 1998) and child-family

interactions (Lerner & Galambos, 1985). Numerous research has shown that these temperament characteristics and traits have a number of educational correlates, including response to classroom instructional methods (Ort and Martin, 1994; Stokes, 2001), strategy use (Davis & Carr, 2001) classroom behaviour (Ort and Martin, 1994; Leong & Schneller, 1993), student-teacher interaction (Keogh & Burnstein, 1988), teachers' attitudes towards their students (Kornblau, 1982; Martin et al., 1983), educational decisions made by teachers (Keogh, 1982) and academic achievement and behaviour problems (Lerner et al., 1985; Martin, 1994; Coplan et al., 1999; Prior, 1999). In fact temperament characteristics have been shown to influence the goodness-of fit between teachers' presentation styles and students reactions to it (Oakland & Katona, 1997; Katona 1998) – even influencing adolescents' self-concept (Katona & Szitó, 1999).

A major outcome of the NYLS that continues to influence research was a proposal by the authors of the "goodness of fit" model. The *goodness of fit* model is widely accepted by temperament theorists and implies that the adequacy of a person's functioning is dependant upon the degree to which the properties of its environment are in accordance with the person's own characteristics and style of behaviour. The similarity of this concept and basic tenets of ecological psychology are quite evident.

The *goodness of fit* conception was based on the discovery that although a great deal of variability among the individual difference domains of temperament can be found in the first year of life, they did predict referral rates later in childhood, but did not fully explain the dynamics that led to referrals to child guidance clinics. Specifically, whereas 70% of the subjects identified as possessing difficult temperament characteristics, later experienced behavioural difficulties (Thomas et al., 1963), there were cases of children with difficult temperaments, who did not develop behaviour problems. Therefore, because other factors contribute to the development of behaviour problems, caution against creating a theory that pinpoints temperament or other child characteristics as the primary determinants of later psychopathology would be prudent.

In this framework, a good fit takes place when there is compatibility between the characteristics of the individual and the demands of the environment. In contrast, poor fit occurs when there is incompatibility between the individual and the environment which increases the risk for the development of behaviour disorders. Thus, when demands are consistently made upon a child who does not possess the capacity (experientially or because of temperament characteristics) to meet them, the result is excessive stress on the child which is likely to be perceived as maladjusted or insufficiently socialized behaviour by the caretaker.

At the same time this draws our attention to the fact, that desirability of different constellations of temperament characteristics may also be culture-dependent, as the study carried out by deVries (1984) points out. Namely, he found in an African tribe during a severe drought, that children with difficult temperaments were more likely to survive – drawing the conclusion that in the African tribe of warriors where assertive, even aggressive behaviour is valued difficult temperament may be more desirable, whereas in Western culture the so-called easy temperament is considered more preferable. This and other research underlines the importance of interpreting results within a cultural context (Super and Harkness, 1986).

Children of all ages are vulnerable to the naturally occurring changes of the environment to which they are subjected. A poor fit between child characteristics and demands of the environment can result in a disturbance of child adjustment. Teachers who tend to have general expectations that all children entering their classroom possess the capacity to quickly adjust to the environment may be placing certain children under stress which may, in turn, lead to maladaptive behaviour patterns. Such findings led researchers to note (Robabal-Coto, 2004; Teglasi, 1998) that the demands of the social environment (e.g. expectations and attitudes of significant others that interact with the child), as well as the characteristics of the child should be considered in the socialization process. Poor fit may be created by a number of factors: a) differences between values, norms and behaviours developed in the home and expectations at school, b) disparity between temperament

characteristics and demands of the environment, c) disparity between the child's expectations regarding acceptance and affection and the caregivers' exhibition of these and d) inconsistent child-rearing practices on the part of caretakers resulting in exacerbated stress on the child.

Characteristically, as we could see from the above cited research – temperament studies have tended to utilize behaviour as a point of departure and then continued to attempt and find the biological basis of behaviour. Utilizing the distinction made by Gunnar (1990) we may say that that these types of approaches are top-down in nature as they place a strong emphasis on the biological roots of behaviour. We will continue with a short description of the three most well-known top-down approaches.

The *behaviour-genetic* approach is the best exemplified in the work of Buss and Plomin, who in their book summarizing research on temperament, define temperament as a genetically determined set of traits (Carver & Scheier, 1998.) which peg down what people do and how they do it. In their view inherited temperaments are more pervasive in influence than any other trait. In this aspect there is no difference in their terminology as compared to Allport (1980). The personality dispositions which Buss and Plomin envision as temperaments are emotionality, activity level and sociability. The dimension of activity level describes the energies a person has and subsumes two characteristics: vigour – the intensity of activities and tempo – the speed with which a person acts. The dimension of sociability refers to a person's preference for sharing activities and a desire for stimulation and responsiveness that is a usual part of social interaction, but not necessarily for social rewards or for the sake of acceptance. In the view of Buss and Plomin temperament characteristics hold true for three emotions depicted in the dimension of emotionality: distress, anger and fear – all involving enough arousal to be relevant as a temperament characteristic. Utilizing the EAS survey in their studies with twins, they have found strong significant positive correlations in the case of monozygotic twins on all three dispositions, while this was not at all the case when dizygotic twins were compared. Although Buss and Plomin emphasize the hereditary nature of these dispositions, they

did point out that their effect is not necessarily continuous and there may be individual differences in reacting to environments – thus perfect continuity is not to be expected. This is emphasized by the analysis of adoption studies (Plomin and Saudino, 1994) using objective and observational data – which clearly show a genetic component, i.e. the heritability of temperament, but genetics rarely explain more than half of the occurring variance.

A*nother line of thought* within the sphere of top-down approaches concentrate on *behaviour inhibition and behavioural approach.* Kagan (1989) similar to Thomas and Chess (1963) conducted research based on the reaction to novelty and found considerable evidence for physiological markers (e.g. pupil dilatation, heart rate and corticol levels) of temperament qualities.

A third approach within the group of top-down theories emphasize *self-regulation and reactivity*, as for example Rothbart and associates (Rothbart & Jones, 1998; Rothbart et al., 2000; Posner & Rothbart, 2002; Rothbart & Hwang, 2002; Ahadi & Rothbart, 1993) in their work on temperament. Their work is based on the assumption that substrates of personality could be identified by studying infants and identifying the temperamental components of affect, attention, and action. Based on their research they concluded that the structure of temperament needs to examined at different developmental stages as self-regulatory systems do not emerge until later in life and not all reactive systems are present at birth. They also call to our attention the fact that cross-cultural differences in child-rearing practices might influence outcomes via cultural values attached to different behaviour patterns- thus also influencing the connotation of parental child-rearing behaviour.

Another possible biological approach to temperament is a bottom-up approach, whereby biological determinants are identified and behavioural outcomes of differing patterning hypothesized. Two such theories are tied to the work of Nelson (1994) and Cloninger (Cloninger et al., 1993a; Cloninger et al., 1993b; Cloninger,1995).

Nelson (1994) utilizing Gray's concept of BIS and BAS postulated that behavioural approach system (BAS) serves as a system for planning motor behaviour

and orientating the person towards the stimuli, its major components being amygdala and orbitoprefrontal cortex. If we conceptualize the amygdala as a major emotional centre, then positive information provided by the amygdala to the orbitoprefrontal cortex serves to aid decisions regarding behavioural approach. If negative emotions are invloved then functioning of the behaviour inhibitions systems (BIS) is initiated involving comparator and motor processes which serve to inhibit behaviours or withdraw from situations. The comparator – according to Gray (Strelau & Zawadzki, 1993) – has two functions. One is tied to the hippocampal system, which receives input from the entorhinal cortex, which in turn receives input from all cortical sensory association areas as well as the amygdala. The other function is tied to the Papez circuit which apparently facilitates decisions about future events. Motor circuits act on information from the comparator, and the prefrontal cortex feeds information back to the comparator system.

Another current bottom-up approach to genetically determined characteristics can be tied to Robert Cloninger and his associates, who following a bio-psychological model of personality development generated the Temperament and Character Inventory (Cloninger et al., 1993a). Cloninger's proposed psychobiological model of temperament and character includes four dimensions of temperaments: novelty seeking, harm avoidance, reward dependency, and persistence and three dimensions of character: self-directedness, cooperativeness, and self-transcendence. In his model, these seven components constitute human personality. The dimensions of temperament are defined as those components of personality that are heritable, developmentally stable, emotionally based, uninfluenced by sociocultural learning, and linked to specific brain biological features. This was revealed by genetic, neuro-physiological and neuro-anatomical studies (Cloninger et al., 1993b). Character dimensions develop in a stage-like manner from infancy through adulthood. Transitions between levels of maturity in character and social skills are nonlinear functions of temperament, social learning, specific genetic factors and random life events (Cloninger, 1995).

2. PERSONALITY AND THE INFLUENCE OF CULTURE

One of the great challenges posed by the cross-cultural perspective of personality is comparison of personality across cultures. Personality may be viewed as a configuration of emotions, cognitions and reactions that are characteristically activated in situations and can be considered as the individual's unique way of adjustment to the environment. Individual level of functioning then is shaped – in turn – by shared and often unstated conventions within the culture regarding what are to be identified as "important" cues and information.

In identifying possible linkages between culture and personality Triandis & Suh (2002) identified three possible approaches. In applying an indigenous perspective, emic approaches are utilized whereby ethnographic approaches would be primarily involved in identifying patterning of naturally occurring structures deriving their meaning from reflections provided by indigenous respondents and attempting to link these derived terms with actual behaviours. Cultural psychology would also primarily rely on an emic approach focusing on identifying those cultural artefacts that impinge on and serve to elicit the culturally embedded and characteristic behaviour-pattern. Emphasis is then on how culture identifies and labels things according to its usefulness in the given cultural context. This also means that values attached to things and phenomena are a function of how the given culture views it. Cultural psychology defines itself as interdisciplinary in nature, at the cross-roads of anthropology, psychology and linguistics emphasizing that psychological phenomena, as perceived by the individual, are a result of symbolic actions applied to it, but then shaped by culture itself. This also brings to our attention ecological factors inevitably influencing the contents of and values attached to these within the given culture. Such ecological factors as climate, terrain, flora and fauna will influence opportunities of livelihood and characteristic life-style. These in turn influence evolutionary processes over a span of time. "Man-made" ecological factors also influence emerging culture, for example wars or significant migrations. An interesting feature of ecological variables for example, is whether resources

needed for survival can be characterized by low (vegetation) or high (e.g. cattle) mobility. In societies characterized by high mobility resources a culture of "honour" develops, characterized by socialization processes resulting in highly aggressive reactions to insult. The developing fierce behaviour has its ecological and evolutional value: it discourages strangers from attempting to steal the easily moveable goods (Triandis & Suh, 2002). Although symbolic meanings play a central role in this approach, the existence of universal characteristics is becoming more and more accepted. In cross-cultural psychology often imposed etic approaches are utilized attempting to measure the same constructs in a culturally sensitive manner, typically taking a personality test and its theoretical linkages developed in one country and taking it to another comparing the results obtained in the new setting to those of respondents of the instrument's country of origin – conducting exploratory or confirmatory factor analysis to identify equivalence.

Before continuing to describe linkages of culture and personality the distinction between individual and cultural level analysis must made. This distinction has come to the forefront as cross-cultural psychology develops (Ratner and Hui, 2003). After Hofstede had completed his IBM surveys and published his work on nation-level characteristics (Hofstede, 1994) and the value surveys of Schwartz also became ever-growingly sophisticated (Sagiv & Schwartz,1995; Roccas et al, 2002) data has consistently underscored the difference between constructs derived from individual-level versus nation-level comparisons. If we want state the problem in a very (maybe oversimplified) open manner in individual level analysis the sample consists of individuals – while studies utilizing a nation-level analysis would be comparing cultures. However oversimplifies this seems, considerable work has to be done before such a level is utilized – as the similarity of meaning assigned to different values held have to be verified first, and only then are nation-level comparisons acceptable (Bardi & Schwartz, 2003). Utilizing this approach also means that the results obtained on culture level do not necessarily translate to the individual level and vica versa (Smith el al., 2006).

The link of ecological factors to socialization processes have been expounded in a previous chapter and paragraphs. Numerous writings have pointed out the way ecological factors influence the culture that develops from climate to maintenance patterns, through child rearing practices and socialization patters (Maccoby, 2000) to personality variables (Chasdi, 1994). What dimensions of culture would then influence personality as it functions in a given society? In the overview provided in Triandis and Suh (2002) one of the factors identified is complexity which can be defined as the extent of differentiation present in a society in respect to the division of labour and indices like gross national product per capita, urban/rural population ratio, size of cities, numbers of electrical or information-technology devices per capita or household. Another characteristic of culture is "tightness", which may be conceptualized to the degree of tolerance regarding deviation from norms. In "tight" cultures norms are imposed in a rigorous fashion, while in "loose" cultures deviation from norms are deemed as more acceptable. Such looseness of culture would prevail in societies which are relatively heterogeneous (in our sample the USA and Australia as immigration goal-countries would be a good example). Cultural tightness is correlated with collectivism, which stems from the characteristic that in collectivist cultures people are more interdependent in their in-groups, thus goals and norms of the in-group receive high-priority and with that, adherence to these norms are tightly controlled. There are many types of collectivist cultures – one important differentiation being its horizontal versus vertical nature. In vertical collectivist societies observation of traditions and group cohesion are important, as well as respect for in-group norms and authorities. On the other hand in horizontal collectivist cultures emphasize empathy, sociability and cooperation. On a cultural level individualism would be seen as the bipolar opposite of collectivism. In vertical individualist cultures achievement, competitiveness and personal agency coupled to self-enhancement is acceptable, but in horizontal individualist cultures the value of equality would predict that overall welfare of those participating in reaching an achievement goal would be acknowledged, thus self-enhancement would not be seen as acceptable, and instead self-reliance and uniqueness would be emphasized

(Nelson & Shavitt, 2002). The terms individualist-collectivist would be thought of as cultural level terms, but if conducting within-culture comparisons the terms idiocentric and allocentric should be utilized to denote persons emphasizing there self-reliance, uniqueness, competition versus interdependence, sociability and an emphasis on in-groups.

At a cultural level of analysis we may say that differences in cognition, motivation and emotions have been identified (Hampton and Marshall, 2000; Choi and Kim, 2004; Matsumoto, 2006). Persons living in individualist cultures would tend to make dispositional, while those living in collectivist cultures would predominantly make situational dispositions, thereby differences emerge in what element of the f(B)= Px E equitation is seen as fixed. In individualist cultures the situation-environment, in collectivist cultures the individual is seen as more malleable - which has consequences regarding preferences in problem solving approach (rational-logistic versus holistic approach), as well as for well-being. This is also closely connected to emotions as reported: in collectivist societies interpersonally engaged emotions are more often reported, which are generally embedded in the network of relationships and are typically other-focused. Persons in individualist cultures would tend to report more disengaged emotions which are positive in nature, and would tend to be self-focused. Differential motivational responses are elicited by success vs. failure. In individualist cultures where individual achievement is of high value – motivation increases after success, while in collectivist cultures it increases after failure as it is seen as a challenge to the self - which is to be resolved via increased effort. This also has consequences for school-success. In individualist cultures where uniqueness and self-determination is highly valued when teachers and authorities make choices for students this is detrimental to motivation, whereas in collectivist countries, where authority figures and trusted peers make informed choices for students, it is highly valued. In regard to the behaviour and communication in social situations major aspects are defined by in-group membership (Triandis and Suh, 2002). In collectivist cultures, persons are characteristically members of only a few in-groups, and in-groups are mostly

accessed by matter of right, membership thus has high value and communication is geared towards maintaining these subjectively important memberships utilizing face-saving and ambiguous communication – which is also valuable in avoiding any repercussions that an undesired albeit clear communication may entail. Behaviour is seen as determined by situational factors and the self is seen as malleable. In individualist cultures persons have many in-groups and this membership has to be earned, albeit these are often non-intimate and relatively short-term, clarity of communication is highly valued and often emphasizes the communicator's view s and personal judgements. Behaviours are thought to be dispositional in nature and self is seen as a stable entity. To summarize the characteristics we may say that in collectivist cultures persons' behaviours are less consistent across situations and is more predictable from norms and roles than from attitudes, while in the case of predicting other persons' behaviours individuals would focus more on contexts and roles.

Most of the research comes from *individual-level of analysis* (Smith et al, 2006), usually involving two cultures. Most research is conducted along the imposed-etic method, and a further measure to side-step possibly uninterpretable results is suggested, namely to forgo two-group comparisons and use multiple sources of data. A further problem may arise from the specificity of the given personality measure under scrutiny, as it may prove difficult to correctly identify the specific content and meaning, thus more general – overarching measures are seen as more preferable (Smith et al., 2006.) At the individual level, allocentric persons tend to define themselves with reference to social entities, when describing others they tend to focus on the context, the situation and the groups' perspectives when making attributions, their motive structures reflects receptivity and adjustment to the needs of others and a restraint of own needs and desires, achievement motivation is socially oriented, they see themselves as being close to friends and far from enemies. (Kitayama and Markus, 1994; Kitayama, 2002). In looking closer at self x situation characteristics (Kitayama et al., 1997) when Japanese are allowed to freely generate situations these would tend to be conducive to self-criticism, but because of the

internally consistent self that allows for the coexistence of contrasting elements, Japanese would both be explicitly self-critical while implicitly evaluating themselves in a positive way. In contrast to the above, idiocentric persons would tend to use internal dispositions when making attributions , and tend to use traits to describe others, tending to create distance from others (irrespective of the other being a friend or an enemy). Basic motives of idiocentrics would tend to reflect internal needs, the ability to withstand social pressures and achievement would also be individually oriented. In freely generated situations Americans would be conducive to self-enhancement where self-actualization is to play an important leading role. Regarding personality dimensions it has been found that allocentrism correlates negatively with openness and positively with agreeableness and conscientiousness.

Let us now have a closer look at trait theories – what do they say about the relationship of personality constructs and culture, can we say there are universals in personality characteristics that emerge in all countries irrespective of cultural characteristics?

3. TRAITS AND TYPES

Carl Jung – in search of delineating his own theoretical beliefs on the organization of psychological processes developed an interest in temperament. Conceptually Jung's psychological types (Jung, 1978; Jung, 1989) are differences between groups of people. Those persons with similar values and attitudes towards the world that determine their way of functioning and their judgements will constitute a group. At the same time, he theorized there are opposing forces in ones self and in realizing the self, the person needs to transcend opposing forces – which are the source of energy. He believed that the principle of opposites governs attitudes and opposing forces can be thought of as bi-polar dimensions. The dimensions delineated by Jung are *extraversion-introversion* – depending what the libido is directed towards and determines where one derives energy. Jung thought of this as a

primary attitude type, which is brought to balance through second and third order function types. The thinking-feeling function type is described as rational functions as they use reason, judgment, abstraction, and generalization. The sensing-intuiting function type on the other hand is thought of as irrational as they are based on the intensity of perception. Jung's types are combined by adding attitude types to functional types, as a way of achieving equilibrium, as persons have a tendency to compensate for psychic imbalance. Jung's theory was never utilized extensively because it is hard to operationalize this tendency – although Jung himself believed that his theory could only be fully understood if the person has sufficient experience as a psychoanalysist.

Allport was also influenced and inspired by the work of Freud, but became disenchanted by the theory as he believed that human behaviour is determined in a much more complex fashion. Allport (1980) focused on the study of personality traits, which he described as something, that has more than nominal existence, i.e. they are vital in a man's existence, they account for more enduring and general features of behaviour than habits, they can be established empirically, are dynamic in nature and tend to "overlap". Traits - according to Allport (1980) are bound to social meaning, but not synonymous with moral judgement, traits do not exclusively determine acts, i.e. there can be acts that are inconsistent with a trait, but it would not prove that the trait is non-existent. Allport also distinguished between traits as personal characteristics – used in an idiographic sense to reflect individual personality and labelled these as personal dispositions, but he also utilized the term common trait to identify characteristics that can be used for describing and comparing different people, to provide meaningful assessments of people in relation to each other – a nomothetic approach. He distinguished three types of traits based on how pervasive their effect is on the individuals' behaviour: cardinal dispositions affect all behaviour determining it across time and situation; central traits are the most pervasive five to ten traits that define a persons' behaviour across situations, while secondary traits are characteristics that are evident in only some of the situations.

Raymond Cattell utilized language terms for traits used by Allport, factor analyzing them by ability and intelligence. He arrived at the conclusion that there are source traits determining emotional expression and are relatively stable, determining what the person does and how he does it (Carver & Scheier, 1998), while motivational traits are dynamic in nature and tend to fluctuate in response to the environment.

Eysenck viewed personality as growing out of genetic inheritance and thought of individual differences as very important. He thought that the idiographic approach of trait-level analysis utilized by Cattell is too low-level an approach, and aimed at analyzing higher-order aggregates (inter-correlations of traits) that would be empirically more robust. As an outcome of this analysis Eysenck proposed three factors, extraversion, psychoticism, and neuroticism (Carver & Scheier, 1998). The traits that make up extraversion are sociable, lively, active, assertive, sensation-seeking, carefree, dominant, surgent, and venturesome. The traits that make up psychoticism are aggressive, cold, egocentric, impersonal, impulsive, antisocial, unempathetic, creative, and tough-minded. The traits that make up neuroticism are anxious, depressed, guilt feelings, low self-esteem, tense, irrational, shy, moody, and emotional. He also combined these to arrive at two bipolar dimensions: extraversion-introversion and emotional stability and fit the typology of Hippocrates to the four combinations of the two bipolar dimensions (extraversion – emotional stability sanguine; introversion – emotional stability phlegmatic; extraversion – emotional instability choleric; introversion – emotional instability melancholic).

On reviewing factor-analytic methods Norman (1963) noticed that two of the originally identified factors are none other than the extraversion and neuroticism factor of Eysenck. It was at that time that McCrae and Costa added a fifth factor "openness to experience", the factors were names and the five-factor model – later called the "Big-Five" was born: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness (McCrae & Costa, 1997). Based on their own and relevant research, cross-sectional data from a variety of countries suggest that within country variations are much greater than among-culture variations (McCrae et al.,

2000; McCrae, 2002; McCrae et al., 2002). Based on this study the authors concluded that developmental timing is largely under genetic control, environmental experiences (except for extreme influences e.g. trauma) have little effect. Based on the above McCrae and his colleagues proposed that the traits measured by the NEO-PI - R are in fact temperaments.

The cross-cultural invariance of the factor structure of the NEO-PI-R (McCrae & Costa, 1997) supports the use of the instrument in a number of cultures, but as pointed out by psychologists involved in cross-cultural studies (Smith et al., 2006; Ratner & Hui, 2003), for comparisons across cultures, it must also be shown that the scales show scalar equivalence across cultures. In case of a large set of countries and languages this is a time and effort consuming process. McCrae has argued (McCrae et al., 2000; McCrae, 2002; McCrae et al, 2002) that independent samples which completed different Norwegian translations of the questionnaire showed similar profiles which suggests that the language in which the NEO-PI-R is administered does not have much effect on mean levels. A further question is related to acquiescence response bias resulting in artifactual differences, which – according to McCrae (2002) will not be a presenting problem in reality due to the balanced keying of the scales of the NEO-PI-R. Furthermore a paired comparison of the diverse sample corroborated the invariance of results irrespective of gender, age, occupational status and culture. The question still remained: are the constructs represented by the five factors meaningful at a cultural level? In order to clarify this utilizing the means of 30 NEO-PI-R facets from 116 sub samples from 36 countries ecological factors-analysis proved there are meaningful interrelations between them were shown, and utilizing US age and gender-related norms for the standardization of raw facet scores – factor scores were calculated and significant correlations with all four of Hofstede's culture dimensions (Hofstede and McCrae, 2004) were verified. This correlation between two measures obtained under such dramatically different conditions would suggest all or some of the following: a) the distribution of genetically influenced personality factors systematically differ among national populations, b) children growing up under the influence of a given culture acquire

common personality characteristics during their development, and c) national cultures effect the way people provide responses in tests.

What are culture's consequences for traits? This question also assumes that it is culture which shapes traits and not the other way around... Utilizing stepwise regression of the NEO-PI-R country means against the four IBM culture scores it was found that extraversion correlates positively with individualism and negatively with masculinity. Neuroticism and Openness to Experience both correlate positively with masculinity and uncertainty avoidance, while Openness to Experience correlates negatively with power distance, as well. Agreeableness correlates negatively with uncertainty avoidance and conscientiousness positively with power distance. Regarding variance explained, neuroticism accounted for 55% of variance in country variables, the lowest being 24% for Conscientiousness. Neuroticism goes hand in hand with high uncertainty avoidance which has been shown to correlate with anger, expressions of guilt, as well as anxiety and expression of emotions. In countries characterized by high masculinity – which correlates with Neuroticism in a positive fashion – job related stress was more expressed. Extraversion strongly correlating with individualism also suggests that a preference for extroversion may prevail in individualist cultures – the negative correlation with masculinity offering corroboration for the finding that individuals in feminine cultures tend to score themselves higher on extraversion, than those in masculine cultures. Regarding Openness to Experience, it was found that persons is masculine cultures tended to score higher on openness – which is in line with previous findings that persons in masculine cultures tend to overrate their own achievement. Cultures characterized by low power distance would tend to reinforce – or at least they would not punish – individual initiatives and exploration of the surrounding environment (thus correlating with Openness to Experience). The positive correlation between Openness to Experience and uncertainty avoidance seems paradoxical – but taking into account that is stepwise regression variance not explained by low power distance – explains the state of affairs. (It must be noted that in case of zero-order correlations Openness to Experience and uncertainty avoidance were not related.)

This data explains that in countries where power distance is low and uncertainty avoidance is high (e.g. Germany or Switzerland) Openness to Experience is high, as opposed to countries where power distance is high and uncertainty avoidance is low (e.g. China and India). Low uncertainty avoidance is also correlated to higher scores on subjective well-being and lower frequencies of xenophobia which can be seen as resulting in higher levels of agreeableness.

As posited by McCrae, (Hofstede and McCrae, 2004) personality would have consequences for value systems as well – with the underlying assumption of selective migration (others might wish to term it as proactive interaction) and reverse causation – positing that value systems and institutions associated to them are conceptualized as social adaptations to the psychological environment that a given distribution of personality traits represents – values playing a mediating role between traits and culture characteristics. Following this line of thought stepwise regression of culture scores on NEO-PI-R factors were undertaken. Results showed that high Neuroticism and low Agreeableness together correlate with uncertainty avoidance. In an imagined scenario we would say that irritable, tense persons who have difficulties in maintaining harmonious relationships, who view each new choice as an irritating source of decision making would tend to co-exist only if rigid rules are applied in decision-making and create an environment which minimizes unexpected situations that require new solutions and reactions --- these are values typical in social scenarios occurring in cultures characterized by high uncertainty avoidance. In the case of a society with high power distance where conscientious introverts are common, it would mean only a few would rise to positions of authority and be able to retain their positions as natural leaders, but because of the dominant Conscientiousness the majority would obey. This would be characteristic of families and local communities, but could serve as models for a larger society if families are of high value --- an example of this would be cultures where a few families over time have accrued high financial affluence and political influence. Individualism and extraversion show a strong correlation – persons inclined to make social contacts are provided with the necessary freedom to do so in individualist cultures – which is

much more obvious than its reverse, the correlation between collectivism and introversion: how could introverts form tightly knit groups? Social interaction is essential for any kind of group to survive – even in cultures collectivist in nature. Persons otherwise disinclined to initiate group membership would thrive under conditions where in-groups are mainly formed on the basis of matter of right – as in the case of collectivist cultures. The association of Openness to Experience and masculinity is self evident. Openness to Experience means that the person is inclined to exploring alternative, opportunities available in the environment – venturing farther and farther from well-known situations and environment. This harmonizes well with values needed to achieve and adopting competitive and agentic values – that surface in cultures characterized by masculinity. The question that remains unresolved is what processes connect Neuroticism to masculinity?

The above line of thought necessitates a word of caution, because if not handled with due scientific scrupulous it may become a vehicle for racist overtones – as historically proven. Although the above line of theorizing automatically gives rise to queries whether personality can influence culture, it was included in order to fully complete the circle and line of thought offered by the logic of the theme.

Other research has pointed out that in spite of considerable differences in methodology and underlying theoretical assumptions, the five-factor model correlates with dimensions of the Myers-Briggs Type Indicator (McCrae and Costa, 1989) being of service in bridging the gap between trait-theory and typologies: the MBTI extraversion-introversion scale correlates on a 0.7 level with NEO-PI Extraversion scale, the MBTI sensing-intuitive with the NEO-PI openness factor. Other dimensions and factors only show a correlation on a 0.4-0.5 level.

One of the most widely used current-day typologies is the Myers-Briggs Type Indicator (MBTI). The MBTI is based on Jung's typology extending it by one further dimension: that of judging-perceiving (Myers et al., 1998) with the underlying assumption that the differences captured are ones of healthy personality differences helping to identify strengths and weaknesses to be improved; thus the explicit goal is to identify healthy functioning of the personality. The Myers-Briggs Type Indicator is

widely used in organizational psychology and human resource management. If we want to relate the MBTI to preferred mode of functioning in learning situations, we might describe extravert students as preferring to try things out for themselves, focus on the outer world and other people, while introverts would prefer to think things through and focus on their internal world. Sensors would be detail-oriented in the learning process focusing on facts and procedures, intuitors on the other hand would be concept-oriented, focusing on meaning and alternative possibilities. Thinkers would make decisions based on logic and rules, while feelers would utilize personal and humanistic considerations. Judgers would prefer to set and follow agendas – seek closure as soon as possible – even if data is incomplete, while perceivers adapt to changing circumstances easily and resist closure. Based on personal preferences on the four bipolar dimensions sixteen possible combinations are identified, and turning to Jung's original theory primary and underlying complementary secondary functions are identified.

The Student Styles Questionnaire is essentially a downward extension of the MBTI (Oakland et al., 1996), based on Jungian typology and emphasizing a temperament-based approach. As we have experienced before, it often occurs in temperament theories that dimensions are re-named. In the case of SSQ the dimension of extraversion-introversion in name and content is retained depicting what the person is energized by, and so is the dimension of thinking-feeling its content reflecting what the preferred basis for decision-making is. The dimension of sensing-judging is renamed to practical-imaginative to capture and reflect the essence of the dimension better, while in content it reflects the preference for the type of information processed with ease, i.e. details and facts versus concepts and theories. The fourth dimension judging-perceiving is totally reframed to organized-flexible to reflect preferences regarding organization of space and time, of how decisions are made. In line with SSQ theory, these eight temperament types – depicted as extremes of four bi-polar dimensions – are referred to as styles. When the eight temperament types are combined, they form sixteen possible style

combinations that are representative of the student's individual differences and preferences.

The authors attempt to create a link between children's temperament, their education and life events. According to SSQ theory, development is shaped by biological characteristics, environment, personal choices and decisions. A basic tenet is that biological makeup is given, and environment can be optimized to facilitate learning and children can be taught to make efficient and wise choices, but the biological makeup of the child impacts the degree to which the child is capable of sustaining such an endeavour. Teachers, with the knowledge and information provided by data from the SSQ are better equipped to change the passive learning roles students are forced into and create rich and meaningful lessons to each student (Katona and Oakland, 1999). The preferences depicted by SSQ should be thought of as strengths that can be built upon - and no one is superior to the other. This would also mean that there are no significant differences in achievement and success at school according to preferences. Let us have a glimpse at how the authors describe the different styles involved.

According to Oakland et al. (1996) 65% of children prefer an extroverted style and 35% an introverted. Utilizing an idiographic approach we may say that children characterized by an *extraverted preference* will be energized by the presence of others, they are inclined to join groups and enjoy interacting with peers. At the same time they feel comfortable when they are in the centre of attention thus thrive on feedback from parents and teachers, encouragement and praise are as important to them as air. Because they enjoy interaction they may not easily sense limits to this action and create undue tension by continuously interrupting others. In a learning situation they would prefer oral presentation as opposed to written expression. Katona and Oakland (1999) also contend that extraverts would be more prone to react impulsively when it comes to solving tasks and reacting in interpersonal situations. This would mean that extraverts would prefer longer assignments to be broken down into shorter tasks, and being more prone to impulsively "calling in" solutions. One might question this aspect, as this would also overlap with qualities of thinking

and practical types. On the opposite extreme, *introverts* would need time alone to regain their energy. While enjoying time spent alone, introverts sometimes have strong attachments to family and carefully chosen few close friends. Because of their tendency to withdraw from too stimulation social events others might see this child as lacking social competence. In school situations they would be especially sensitive as being in a group whole day drains their energies, thus heavily relying on group-work in their case would just put further burdens on their shoulder. They perform better in individual seat work or in pair-work with a compatible peer. They prefer to take time in formulating their opinion, thus they may seem hesitant to onlookers, while introverts themselves feel more comfortable if they can take time to respond – thus written formats are more preferable in their case than oral presentations. Because of this trait these children are often overlooked by teachers, who mistake their reserved nature as being uncooperative, unfriendly and/or less intelligent.

Practical and imaginative style differences would tend to surface in the preferred type of information processed, which is also dependent on the type of information predominantly presented in formal school-settings. According to the authors (Oakland et al, 1996), 65% of children are characterized by a practical preference and 35% by an imaginative style. *Practical style* preference would be associated with attending to facts and details and to a lesser extent to abstractions. These children would prefer a more traditional teaching style which presents information in a sequential fashion. They would enjoy working with peers sharing their concrete interests and prefer assignments which have an obvious purpose. As preference for hands-on activity is characteristic, multi-modal presentation is more meaningful to them than those, which rely on primarily only one sensory mode. Students with a practical preference may reject abstract content and concepts to a degree where they actively reject subject matter that heavily rely on abstractions, e.g. literature and poetry. Because of their practical orientation they prefer activities that can be completed in a few, well-determined steps by implementing a well-known algorithm. Students characterized by an *imaginative style* on the other hand would be drawn to activities where they need to use their imagination and combinatory skills,

prefer theory-driven, abstract thinking but are often prone to leap to conclusions without taking the time to check premises in a detailed fashion. They tend to get bored with repetitive tasks or ones utilizing the same skills and algorithms over and over again. They would enjoy activities where they can utilize novel ideas and creative solutions, abstract language skills and figurative speech. When given the opportunity to utilize their strengths they might tend to develop projects that are so elaborate and difficult that they themselves are unable to accomplish them alone.

Thinking and feeling style preferences tend to vary by gender; approximately 65% of males and 35% of females have a preference for a feeling style (Oakland et al., 1996). As this dimension reflects typical responses in the decision-making process, a *thinking style* preference would reflect that students characterized by this quality would tend to make decisions based on what they believe is fair and logical. They do not understand others' hurt when their decisions affect feelings as long as the decision is just as they usually arrive at a decision only after taking sound and methodological steps to reach a fair conclusion. According to the authors students characterized by a thinking style are reserved and tend to avoid situations where emotions and inner feelings are exposed. They enjoy tasks that involve logic and would achieve well in a competitive environment, preferring marked visual displays of their standing within the class. As consistency is an important facet in their way of handling decision-making processes, and their tendency to be sceptical can make them critical of themselves and others – easily hurting others' feelings when expressing their doubts. Their disinterest in social exchanges and "small talk" also may inhibit their social contacts. Preference for a *feeling style* would make the student very much aware of the emotional waves that appear in the wake of different statements. They would tend to behave in ways that are conducive to an atmosphere of harmony and respect. They would tend to take into account how the decision affects others – instead of the logic of the given problem. In a social situation they enjoy the presence of others and have an innate tactfulness that helps them to understand others and behave in an empathetic manner. They enjoy working in collaborative groups, but their high need for social exchange may hinder

productivity. They are typically "good listeners" and peers may rely on them for social acceptance and comfort, but at the same time this may also result in these children becoming so enmeshed with others' emotional needs that they neglect their schoolwork.

I must add that the above description heavily relies on the emic approach of a Western culture, where culture accepts that individuals based on their preferences can decide freely in a magnitude of situations to express or withhold the expression and acceptance of feelings. It also reflects level of cognitive functioning that is related to the ability of taking alternative viewpoints. If we look at the context of the questions assigned to this factor we may also see that the questions contain two subsets – one of being able to empathize with others and the other sub-group that relates to the expression and handling of own emotions. In the Western emic view we do not express emotions that are not present or choose not to express them, but taking other frames of mind into account, we may say that there are cultures where the culture itself does not ascribe to expressing emotions - even if very highly taught; which does not necessarily make them into persons characterized by a thinking style....

The organized-flexible style dimension reflects how students handle time and environment characteristics. According to the authors approximately even numbers prefer one and the other (Oakland et al., 1996). An *organized style* preference would mean the student prefers having set time schedules ensuring enough time for the things they need to do and a predictable time-table of things (katona and Oakland, 1999.). This goes hand-in-hand with the need for a feeling of being in control over the course of their endeavours – already knowing the goal. Thus it is important for them to know exactly how assignments will be evaluated, what formal and constant requirements there are – before even sitting down to complete the assignment. If these prerequisites are present they tend to be hard-working and persistent. For them a structured presentation of information is preferred. Their need for bringing things to closure and draw conclusions may also suggest that they are characterized by a relatively higher level of anxiety. Their preference for routines in time and space

may make them unduly inflexible and surface in a tendency to worry if things are not going the way they expected them to and hesitate when confronted with new or unexpected aspects. On the reverse side, those with a *flexible style* preference would become easily bored with repetitive routines and tend to think of them an unnecessary restriction that confines opportunities. For them unexpected events provide a source of challenge and stimulation they thrive on, and they themselves tend to act on the spur of the moment. They view structured teaching methods as boring and would prefer opportunities of learning by discovery. Their carefree nature makes them fun to be around, their wit and charms opening up opportunities not readily available to others. They themselves enjoy social interactions as they have inbuilt surprises – yet this may be a source of restlessness at times of stress. Sometimes they may seem insensitive because of their ill-timed surprises and may disillusion others by not keeping to commitments and not being an equal partner in group-work.

4. STUDENT STYLES AND ITS CORRELATES – IMPLICATIONS FOR RESEARCH

In the original delineating of SSQ styles serious efforts were made to identify strengths of students in educational settings, how the best fit between the individual and the educational environment and processes can be achieved to maintain a high level of performance (Oakland et al., 1996) and to identify which vocational choices could be seen as conducive to development and growth of self. In the analysis of data development and gender related issues were identified.

One way the original questionnaire's validity was established was to investigate differences of preference for vocational choices once within-groups differences were significant (Oakland et al, 2001). Eleven vocations were examined and relations were vocations examined – an extrovert style preference was characterized by preferences for becoming a counsellor and rock-star, introvert with computer programmer and writer, practical orientation with ambulance driver, computer programmer, mechanic, banker; imaginative with counsellor, professor, rock-star and writer; thinking with ambulance driver, jet pilot and mechanic, feeling with banker, counsellor, professor, mathematician, teacher, writer; organized preference with banker, computer programmer, counsellor, mathematician, professor, teacher, writer, and a preference for a flexible style with jet pilot, mechanic and rock star. Once again no explanation is offered for such diverse fields. One can only speculate that no direct relationship can be observed between preferences and expressed preference for vocation. One very plausible explanation is that individual preferences are modified by aptitude, abilities and opportunities within a person's environment. Temperament information can be useful in career planning, but it would be erroneous to assume that all persons with a given type of temperament will be content or successful in the same type of vocation. Individuals with similar temperaments may have divergent interests and talents that are, in turn, influenced by dynamic traits. Moreover, temperaments can be channelled; opportunities and incentives provided by the social environment can shape personality and induce

adaptations in dynamic personality variables (McCrae et al., 2000) that may ultimately influence job satisfaction.

Some attempts were made to identify the effects of matching teaching styles to student preferences. Although the authors expected substantial growth in student achievement, but this was not verified (Oakland et al., 1996). Basically there was no conceptual and explicit articulation of the relationship between personality temperament qualities and preferences for learning style are expounded on. As school psychologists have articulated explicitly (Lemire, 1996) grouping in order to match style is often misused to pigeonhole or stereotype people, thus professionals should follow additional considerations in this procedure. One of these is that in matching teacher and student style it should be as closely overlapping as possible in order to maximize the benefits of having common ground to work on. Teachers should also encourage adaptability of styles. In order to be able to accomplish this teachers also need to be adaptable and versatile in their own style: the more adaptable the style of the teacher and, the higher the probability they are willing to and are able to adapt to other styles. Versatility is the fluid ability to shift from one style into others. It is a critical skill that should be taught deliberately – along with general style information. Behaviour is a result of interaction of influences that result in a decision. Behaviour is not totally determined by outside forces – although undoubtedly shaped by them. On the other hand total match in styles is not desirable as all students should experience learning in a non-dominant style area in order to develop adaptable style and versatility. Experience in other style areas serve to increase the ability of appreciating other styles and to be efficient in a large sphere of situations.

Among *development related* issues is the stability of temperamentally based traits. While infant temperament is shown to have less predictive value for adulthood (Lemery et al., 1999), other research has shown relative growing stability in individual differences at least until the age of 30 years (McCrae et al., 2000). The authors of the SSQ questionnaire (Oakland et al., 1996) have investigated test-retest reliability and found that reliability coefficients range from a low .67 to .80 on the

four dimensions taken a 7-month interval. Analysis of the original US sample showed three age-related developmental trends. The first developmental trend identified was, that frequency of preference for an extraverted style increases from age 8 years until the early teens and then tends to drop off. The second, younger children more frequently show a preference for an organized style than do older children (the turning point occurring between the ages of 11 and 13 years of age). A gender related issue also became apparent, namely while the majority of males expressed a preference for a thinking style, the majority of females preferred a feeling style. The authors did not offer alternative explanations for the above-mentioned phenomena (Oakland et al., 2001; Stafford and Oakland, 1996b) – and the results were not examined in a consistent fashion regarding cultural groups. Cross-cultural comparisons were performed within the United States: the temperament styles of African American, Hispanic, and White children were compared (Stafford, 1994; Stafford & Oakland, 1996a). African Americans and Hispanics were found to be more practical and organized than Whites, with African Americans exhibiting higher preference for thinking than Whites. Despite these differences in mean levels of the types, the structure of the SSQ has been found to be consistent across different cultural groups within the United States (Stafford & Oakland, 1996a; Stafford & Oakland, 1996b).

As we have seen in cited studies the traits measured by the big-five and temperament based typologies show correlation (McCrae and Costa, 1989). We also see that some researchers tend to accept that if personality characteristics occur in a consistent fashion in different parts of the world, they see it as verifying the given characteristics as temperament qualities. At the same time –by definition– temperament qualities are defined by biological characteristics hereditary and biologically determined by nature. McCrae and colleagues (2000) found strong conceptual links among the big-five factors and childhood temperaments. They suggest that the same endogenous traits underlie child and adult behaviour. In contrast to the proposed similarity of trait types across the life span, they identified age changes in the mean level of traits. For example, between ages 18 to 30 they

found Neuroticism, Extraversion, and Openness to Experience decrease while Agreeableness and Conscientiousness increase. These authors could not extend their research into childhood, as it would require a change in instrumentation from the NEO Five Factor Inventory. However, the SSQ has been used to study childhood characteristics. The same dilemmas are formulated by Triandis adding that culture should in fact be used in a manner that provides a context for understanding (Triandis and Suh, 2002) the meaning of personality characteristics and the way they are shaped by culture. With this statement he called to our attention the fact, that convergence between emic and etic structures allows for comparing personalities across cultures (following an etic approach), while using culturally sensitive elements (using emic dimensions) to describe personality. If we add to this that for example Eysenck himself started out utilizing temperament qualities which he then turned to as describing an intermeshed complexity of traits, we may be closer to the truth if we handle data from SSQ as traits that are shaped by environment in which situations and processes are determined by culture. The structure of the questionnaire by utilizing multiple questions regarding each characteristic answers the questions that might arise regarding consistency by utilizing an aggregate approach, which is further strengthened by the processes applied by test developers, namely investigating questionnaire characteristics by item-parcels, as well. This also means that when we want to address further analysis on a large multi-cultural sample, we should in fact be looking for trait characteristics and handling them, as such (Marsh et al., 1992.).

IV. HYPOTHESES

Questions addressed by the research centres around three questions: differences among cultures, across age-groups and gender related issues. Although these issues for the sake of hypothesis are dissected, we are well-aware that all the characteristics under investigation are fluid outcomes of socializing processes, and as such are mutually interdependent in their development.

1. The first hypothesis, which is strictly cross-cultural in its nature, is tied to the work of Hofstede (Hofstede and McCrae, 2004). One of the dimensions applied by Hofstede in his work is that of collectivism-individualism. The collectivist-individualistic dimension refers to the degree to which individuals are integrated into groups within a culture. Based on Kagitcibasi's work (1996) on family models (see II.4) identifying the prevalence of interrelated family models in collectivist cultures we hypothesize that the prevalent family model serves as a mediator of cultural values which carries over to the individual level. In an interrelated family youngsters are expected to be aware of the emotional undertones of a social situation early-on and thus their early socialization would emphasize this factor thereby youngsters living in collectivist cultures (PRC, Vietnam and Costa Rica) will more often show preference for the "feeling" dimension, while individualist countries will show thinking preference in comparison as relative to each other.

2. Based on the fact that in previous studies extraversion as measured by NEO-PI-R and SSQ show interrelatedness (Oakland et al., 1996), and the relationship between extraversion as measured by NEO-PI-R and individualism is verified at an individual and culture-level, following the line of thought explicated by Hofstede and McCrae (2004), we may expect that in individualistic countries extraversion would be more dominant, while in collectivistic cultures introversion is more frequent. Although introversion and a collectivist culture is seemingly contradictory, it may be conceptualized that in collectivistic cultures in-groups of persons are assigned, persons do not have to make explicit efforts to become a member of groups. At the same time

the person may be obliged to be a member of a group not necessarily in harmony with their own temperamental needs, this is resolved by developing a dual relationship of an inner an outer world (Choi & Kim, 2004).

3. Considering ecocultural perspectives, we expect that the financial-economical strengths and economical development of a country determine typical employment opportunities, which in turn will influence the preferred socialization goals promoted by primary and secondary socializing processes. As a result we expect that economically less-developed countries – as Costa Rica, Vietnam and PRC – there will be an expressed preference for a "Practical" orientation in contrast with economically more highly developed countries (USA, Australia and Hungary). This hypothesis is in line with studies on the value of child (Kagitcibasi, 1996) which emphasizes that in collectivistic countries, where the family model of interdependence prevails and the utilitarian value of the child is high, more prevalent preference for practical orientations would be manifested.

4. This hypothesis regards the relative standing of individuals as compared to each other based on the effect of cultural traditions regarding value systems and self-construal in a given society. Value systems not only affect family functioning, but also socialization procedures regarding work and work ethic, reflected in the dominant preferences on the different dimensions. Of the six country-level samples three each could be assigned to the collectivist and individualist cultures (Hofstede, 1994), although many criticize it as a dimension overused (Poortinga, 1992; Smith et al., 2006). One country in each of these groups may be looked upon as the "odd-one out" based on value systems regarding work. Namely youth in Hungary and Costa Rica as predominantly Catholic countries would tend to be more similar to each other in preferences, than the members of the original group they were assigned to. In the group of individualist countries Australia and USA share in their culture a predominantly a protestant work ethic, while in the group of collectivist countries Vietnam and PRC may both be characterized by Confucian values and thus tend to display similar preferences. This would mean that when contrasting results at country-level Hungary and Costa Rica will stand apart from the a priori created group of

individualistic and collectivistic countries if our notion that the dimension of individualism-collectivism cannot itself sufficiently explain adopted socialization practices – and further dimensions of culture defining adopted socialization goals and practices will need to be taken into account.

5. This hypothesis concerns gender-related differences. Numerous research points out that males and females tend to relate to emotions differentially. Although there are no differences in the recognition of emotions between pre-school girls and boys, girls already talk about emotions more often. Parents, teachers and peers clearly relate to children differentially based upon gender (Jones et al., 1990; Jones & Wheatley, 1990; Kuebli & Fivush, 1992) emphasizing emotional harmony and emotional aspects of the relationship in case of girls, while reinforcing a more active stance in boys. Thus we hypothesize that girls – as opposed to boys – will show feeling preference significantly more frequently. Previous researches in the US with SSQ and MBTI have also come arrived at the same conclusion (Oakland et al., 1996; Millon, 1991) – thus it would be interesting to identify whether same trends apply more globally, as well.

6. In countries where women's active participation in the work-force is not accepted, therefore an expressed patriarchal distinction between gender-role stereotypes exists (Best & Williams, 2003) socialization practices will more markedly differ according to the gender of the child. We may expect that in economically more highly developed countries women are more likely to be integrated into the workforce, and thereby less of a distinction will be made according by gender in preferences best harmonizing with gender stereotypes according to which women tend to prefer feeling orientations and their male counterparts a thinking orientation.

7. Our last hypothesis is, that as a result of developmental processes the preference for flexibility increases with age universally, independent of which country and culture the sample originates from. For younger children an environment organized in time and space is a source of security: knowing when, where what is going to happen. Rules and norms provided by outside reference persons is it provides a frame of reference for understanding the world and its events. Growing older and

coming closer to adolescence where the need for autonomy grows – or at least more-and-more responsibility is given to the adolescent – with the growth of cognitive capacities and abilities rules imposed by other agents become in obstacle to self-realization. Thus a preference for flexibility emerges – if not in an absolute, but at least in a relative fashion, which has already been proven in the US (Oakland, et al., 1996). Preferences expressed on this dimension may well also a be a reflection of socialization practices fuelled by characteristic values held by society at large regarding the importance of following rules and the number of rules and norms, i.e. the "tightness" of culture (Trompenaars and Hampton-Turner, 1997). The more important rule-following is seen in a given society, the less opportunities the individual is provided in the socialization process to experiment with different reaction-modes in different situations – the inductee is expected to learn and follow rules of conduct ascribed in different situations. This could result in the individual acquiring less flexibility in handling situations and preferring environments where it is unambiguous what type of action and behaviour is expected. On a cultural level of analysis this could mean a behaviour-pattern that would characterize cultures and societies of high uncertainty-avoidance – if the element of strong rule-orientation is emphasized.

In order to ensure a meaningful research the applicability of the Student Styles questionnaire needs to be evaluated and verified, thus we hypothesize that confirmatory factor analysis will prove construct validity of the Students Style Questionnaire (Oakland et al., 1996) across cultures, being meaningfully validated by leisure-time activity preferences.

V. METHODS AND PROCEDURES

1. METHODS

The SSQ questionnaire

The Students Styles Questionnaire (SSQ) developed by Oakland, Glutting & Horton (1996) was used for the international cross-cultural comparative study. The questionnaire is based on the Jungian approach of personality, but emphasizes the ecological perspective inasmuch as it emphasizes the consequences of types in regard to preferred forms of accommodation to characteristics of the environment. The questionnaire utilizes four bipolar dimensions: extraversion-introversion, practical-imaginative, thinking-feeling, organized-flexible. The authors briefly characterize persons on the extraversion-introversion dimension according to which situations energize the person: participation in social groups or solitude. Preferences in the practical-imaginative dimension indicate the type of stimuli preferred in information processing. Characteristics in the thinking-feeling dimension determine the preferred methods and viewpoints of decision making, while the organized-flexible dimension maps the temporal sequencing of the decision-making process.

In the questionnaire, the different items describe a situation and two alternative behavioural reactions and the subjects have to choose *one* of them. The original evaluation of the questionnaire also suggests a type viewpoint of the original authors, as the choice expressed regarding bipolar dimensions are "either-or" in their nature and after summing the weighted points, the sums designating the two ends of the bipolar dimensions have to be subtracted from each other, and the direction of result on the bipolar dimension characterizes the person. Thus the 64 possible combinations of the possible 16 outcomes characterize persons.

This item-structure may also be evaluated as situation-oriented, as items always depict a concrete situation in which preferences have to be expressed. At the same time as a result of questionnaire development, responses always have to be made between

alternatives. The alternatives are paired in a fashion to depict a preference of one of the endpoints of a bipolar dimension. In this sense it may be conceptualized as a situation-based Osgood-type scale. As pointed out by cross-cultural research (Ratner & Hui, 2003) and research on national stereotypes (Hunyady, 1996) it would be important not only to verify positive–negative connotations, but also the degree to which the given characteristic is seen important or characteristic. As this research was conducted as a part of a larger study limitations were placed on the amount of data that could be gathered for our purposes across countries. Further research should aim to implement such an approach – meanwhile an idiographic analysis of results could approximate such endeavours.

The original questionnaire was standardized on school-children aged between 8 and 17 years of age (N=7902) and confidence limits for prevalence-based standardized T-scores for the four dimensions SEM 4.47 – 5.75 with a limit set at 90% between 7.38 and 9.48 (Student Styles Questionnaire [SSQ], Oakland, Glutting & Horton, 1996). Coefficients characterizing stability in a seven-month interval on the dimensions of extraversion-introversion, practical-imaginative, thinking-feeling and organized-flexible are 0.80, 0.76, 0.70 and 0.78 respectively with an average of 0.74. Similar response patterning was identified in the case of Afro-American, Anglo-American and Hispanic children (Stafford, 1994; Stafford & Oakland, 1996a; Stafford & Oakland, 1996b). Factor-structures proved to be stabile in case of diverse ethnic groups. The factor-analysis of the questionnaire confirmed the theoretically postulated structure of SSQ and the factors are independent of intellectual abilities. Factor congruence as a function of age is high, 0.90 or above in the different age-groups. The original questionnaire was presented to students as publishes by PsyCorp (Oakland, Glutting & Horton, 1996).

Leisure-time activity preferences

We looked for content validation via a short, 14+1-item questionnaire that was administered regarding preferred leisure-time activities (see Table A-1 for the details of the questionnaire) in which rank ordering of activities were requested. In order to provide for totally individual choices a category of "other" was made available. The listed leisure time-activities were identified on the basis of lists compiled by adolescents participating in the pilot-study of this research. The items selected from the lists were chosen on the basis of hypothesized characteristic preferences of activities proposed to harmonize with given dimensions of the SSQ. On the extraversion-introversion dimension playing chess, computer strategy games, reading, writing a diary or poems and participating in role-play (when the person can hide behind the facade of the role) were thought of as prevalent leisure-time activities typical of a preference for introversion; and being with friends, dancing and playing typically social games (e.g. darts, snooker, cards) was included as activities characteristically preferred by extroverts. The activities characteristically thought to differentiate on the thinking feeling dimension were: playing chess and strategic games, snooker and cards on preference for thinking style, while reading going to the theatre and movies, dancing (as an expression of feelings) and being with friends typically connected to a preference for a feeling style. On the practical imaginative dimension a preference for a practical style was thought to harmonize with activities where "doing", i.e. physical activity are important i.e. sports, dancing, photography and drawing, playing & listening to music, while activities markedly necessitating a preference for utilizing imagination are role-playing, writing poems and diary and maybe some of the strategy games – even playing chess (foretelling the next move of the partner). On the dimension of organized-flexible the activities which would specifically require a planning on the part of the person (independent of others) would be loaded on the organized side e.g. writing and photography, while activities where peers would be involved would tend to load on flexibility – in response to adjusting to others' needs, e.g. going to the movies, listening to music, etc..

Focus group interviews

Interviews were undertaken with the purpose of being able to provide a more comprehensive information base for the interpretation of data. The interviews – where possible were conducted in person – if this proved to be impossible – e-mail communication was utiilized. Interviewees were taken from the schools where the SSQ was originally administered – although not necessarily only those participated who had originally filled in the questionnaire. In cases where it was viable, focus group interviews were conducted with students regarding the value of schooling in general in the given society, how do students evaluate different schools – are some more prestigious than others – if so, what attributes of the school contribute to its prestigious standing, what importance is attached to schooling by parents and the students themselves, as well as a brief description of students' daily school-life as a subjective back-drop. This latter includes daily schedules, types of classes, teachers' preferred mode of class structuring and methods, the role of homework and independent seatwork, opportunities for students to make choices based on individual preferences, basis of assigning students to classes, system of behaviour management adopted on a school-wide basis. (For questions routinely brought up in focus-interviews see appendix Figure A-1). The results of interviews will be utilized to describe the sample.

Administration of tests

I requested the help of colleagues – school psychologists – in the respective countries (except for Vietnam, where a teacher came to my aid). In every instance the school-psychologists administered the test during a class-period. Detailed written instructions were provided and helpers were instructed to read it out aloud to students before administering the test. Also, in order to increase the reliability of obtained measures, sample items were also provided, as in the original questionnaire. Basically there were three rounds of test administration: one as a pilot study – involving about 30 students from each country with the goal of identifying any further problematic items originally not envisioned by the translation-back-translation

procedure; on the second occasion the full sample was utilized, and on a third -6-7 months after the original test administration, a retest was performed.

2. THE SAMPLE

Subjects were recruited from six countries, utilizing four age-groups universally: age 9, 11, 13 and 15 years of age. The ceiling age-level for research purposes was determined by the higher end of the compulsory schooling continuum: in most countries over and above the age of 15 compulsory schooling ends, thus the sample that could be reached would certainly not reflect the majority.

Optimally we tried to reach at least 400 students in each country, preferably with an equally distributed gender and age representation: approximately 100 students per age-group with 50 % representing each gender. In choosing the student sample within each country it was important that all school-types relevant to the given age-group be represented within the sample (e.g. grammar schools and technical schools), hopefully ensuring a better representativity than otherwise possible – although we must admit we cannot consider the samples representative as the samples reflect the school-system of the *given geographic region within the country*. In case of countries with varied service-provision this can be considered a serious limiting factor (e.g. in the Peoples Republic of China [PRC] only schools from the Hangzhou region participated). As described in the introductory first chapter we can assume that in spite all these efforts, it is highly likely that in case of Costa Rica and Vietnam the group of 15-year-olds is not representative because of the relative large number of drop-outs.

In order to minimize the effects of a further mediating element – the socio-economic status of the family and type of schooling – we choose exclusively public schools which serve the needs of mainly urban, middle and lower-middle class families in all of the communities represented in the sample – as controlled for data

obtained from respondents. The precise distribution of subject characteristics is displayed in Table V-1.

Gender	**age**	**Aus-tralia**	**Costa Rica**	**PRC**	**Hun-gary**	**USA**	**Viet-nam**	**Σ**
Male	9	39	52	50	57	44	51	**293**
Male	11	46	53	50	48	74	50	**321**
Male	13	39	55	50	50	80	50	**324**
Male	15	43	53	49	46	42	43	**276**
Male	**Σ**	**167**	**213**	**199**	**201**	**240**	**194**	**1214**
Female	9	59	54	50	42	51	42	**298**
Female	11	52	54	50	52	88	50	**346**
Female	13	35	53	50	52	79	47	**316**
Female	15	56	58	51	54	42	48	**309**
Female	**Σ**	**202**	**219**	**201**	**200**	**260**	**187**	**1269**
Male +Female	**Σ**	**369**	**432**	**400**	**401**	**500**	**381**	**2483**
9 year-olds		98	106	100	99	95	93	**591**
11 year-olds		98	107	100	100	162	100	**667**
13 year-olds		74	108	100	102	159	97	**640**
15 year-olds		99	111	100	100	84	91	**585**

Table V-1 . Distribution of sample according to age, gender and country

As mentioned previously, focus-group interviews were undertaken to provide a more detailed description of subject-characteristics let as take a brief look at common characteristics, as well as a short description country by country. Regarding characteristics of the whole sample we can say, that all students in the sample at age 9 and 11 attend primary schools, while at age 15 all students – regardless of country – attend some-sort of secondary schooling. The cohort of 13-years-olds is not as uniform, some attend primary-, others attend secondary schools. As a result of sample selection all students are in the public school-system and all the schools represented in the sample typically form classes based on grade-level. Another uniform characteristic is that home-work (or independent work for which the individual is responsible) is typically assigned in secondary schools, while at the primary level this is not a uniform practice – neither among countries, neither within a country.

Hungary

In *Hungary* 9-year olds exclusively attend primary schools. The age-group of 11 year-olds can be students of primary schools or they may attend 8-grade grammar schools. 13-year olds may be attending primary, 6- or 8-year grammar schools. 15-year-olds may attend a variety of schools: grammar school, vocational secondary or vocational training school. Students' outlook on life and the role of learning tends to differ greatly according to school-type attended – especially in the age cohorts of 13 and 15 year-olds, attributable to the highly selective nature of the school-system. Grammar school students all planned to continue their studies, albeit not necessarily exclusively in higher education. They saw education as a way of obtaining better paying jobs. Those in vocational secondary schools did not necessarily put an emphasis on education per se, but more often than not, accepted it as something that is inevitably a necessity for holding down a job. Plans regarding education centered around choosing another vocation or obtaining a technician's degree. The majority of the above mentioned two groups both emphasized that their parents think of education as important (at least up to the point of becoming a skilled labourer of some sort). This was not at all characteristic of students in vocational training. This finding is in harmony with outcomes of previous research that suggest that parent-child relationships, socioeconomic status and level of parents' education all influence future orientation of youth (Sallay, 2003). Students attending vocational schools look upon school attendance as something coercively forced upon them. There was an agreement among students – irregardless of age and school type – that some kind of "higher force" determines what is taught, students express a feeling of externally directed, or using DeCharms's phrase: as being "pawns" in the game of education (DeCharms, 1984). We must bear in mind, that differences in socio-economic family background would also be reflected by the type of school attended (Halász & Lannert, 2003), where a middle-class background would strengthen the probability of choosing grammar-schools at the secondary level. As a reflection of the selectivity of the school-system, grammar schools are seen as more prestigious than vocational schools, and within

grammar schools those having a better record of their students being accepted to higher education are thought of as more prestigious. When describing every-day school life most students recounted a rigorous goal-setting on the part of the teacher with regularly assigned and checked homework, with oral and written recitations and tests of subject-matter learnt a common practice. Teachers characteristically prefer lecture-style classes. Usually students assigned to one class would take the same classes all day in primary schools – some differentiation occurs at secondary level. One boy described the teaching-learning process at school as a hide-and-seek game in which students want to get away with as much of not learning as possible and teachers trying to find out who has not prepared for the day. As for typical behaviour-management techniques – teachers routinely send the most problematic children to the head-teacher or principle – with consequences of parents being notified. These teacher actions are viewed as pitiful, students resent them – but students in fact are more concerned regarding parental reactions. Although school-time is typically designed to provide structured time-schedule in the form of classes until early afternoon, formally unstructured time in the afternoon is expected to be spent with preparing for the following day – via completing homework assignments. A characteristic of Hungarian school-system is that it uniformly assigns home-work from early stages of schooling (i.e. from the beginning of primary schooling) and in nearly all subject matter. Students typically do not have a choice of assignments and completing home-work typically necessitates a foresight and planning of 2-3-4 days at the maximum, but never more. This also means that students seldom have the opportunity for self-determination is curbed and development of executive skills related to organizing and planning are limited.

Australia and the United States of America

The basic school-system is the same overall in both countries, ensuring all students the possibility of a high-school diploma and education until age 18. Both countries can boast with a well-developed public and private school-system. Our sample originates from the public school-system, and based on the data cited in the introductory chapter we may confidently state that the majority of children participate in the educational possibilities provided. Students interviewed in both countries were in middle and senior high-school. I was able to talk with two groups each in both countries. The majority of students tended to agree that there are no significant differences between public high-schools – except for the community primarily served. Interviewees primarily differentiated among private schools along the dimension of being elite or not (how exclusive it is or not), but they did not necessarily view them as guaranteeing prestige (albeit we should bear in mind that over and above accepting these statements at face value, they also serve as a form of self-serving bias). The groups differed on their view of and attitude towards schooling depending upon the neighbourhood served, i.e. socio-economic status. Students from lower-middle-class neighbourhoods would not be too keen on entering higher education – although they did say they would not participate in community college (but this is likely to be an artefact of the presence of the interviewer). Although quite a few expressed a wish to learn a specific job-skill, when questioning further it turned out they do not really know of the mechanisms and many students thought is enough to learn on-the-job. Those students coming from a middle-class or higher-middle class neighbourhood all said they want to enter some sort of higher education – to have at least a BA – and then decide. It very much seemed like "buying time" to decide on life goals – which is becoming more and more typical in Hungary, as well. The fact that many students cited the possibility of higher education once again underscores the importance a family background characteristics (Sallay, 2003; Georgas, et al., 2001) in envisioning the future. Regarding typical school-days students would recall doing some homework in high schools, but in elementary schools that would not be typical, at all. The typical classroom setting would be group-centered – especially in elementary school, with

tables that you can sit around and work in small groups – being in the same room for most of the day. In middle and high school the scene changes to individual seating plans – with a change of classrooms according to subject-mater taught. There are a variety of activities in classes – from independent seat-work, to the use of projects and group-work. Active classroom participation is seen as typically the students' choice. Remarks like "If you don't cause any problems to the teachers they'll leave you alone – just mind your own business and don't interfere with theirs." – seems to suggest that goal-setting is left to a great extent to parents and students. In middle- and high-school students many schools provide an option to students to decide the difficulty-level at which they learn compulsory subjects (i.e. tracking), depending on individual aspiration as well as preliminary knowledge. (It must be mentioned that tracking is more of an option in the US as in Australia, although differentiation based on preliminary knowledge would be present to some extent.) Characteristically there is a range of electives that may be chosen – some academically geared, others more practical in nature. When asking about typical class-management procedure students mention being sent to resource-rooms, given special assignments or being suspended from school --- in this latter case parental repercussions were seen as more of a punishment. School-attendance would typically provide structure of time for most of the day – leaving late afternoon and the evening free. Homework is typically introduced in middle- and high-school, mostly in the form of longer-term assignments. Day-to-day assignments so typical of the Hungarian school-system is unknown of. Nature and frequency of assignments would depend the track and the nature of the elective course.

Costa Rica

In Costa Rica –although public education was the first to be established in Latin-America – the country still faces serious problems. As Funkhouser (1998) describes the situation – public education is not the most effective vehicle to getting admitted to higher education. Private schools are much better equipped and have long-lasting traditions in Costa Rica. I did not have an opportunity to exchange ideas and interview

students themselves. Based on e-mail communications with some teachers and students we can say that students typically do not attend specialized classrooms and there is no regular way of making students accountable than end-of-term tests – although individual seat-work – and in high-schools, homework is routinely scrutinized. In spite of curricular standards being constantly revamped, they seem to be drifting farther away from the needs of incoming children (according to teachers). Many students in the public school system are disenchanted with learning and subject matter delivered. They tend to view private-schools as a guaranteeing an opportunity to enter higher-education. Many respondents see education as a function of financial affluence. Albeit if one wants to get a good schooling and has the finances – private schooling is the option. Those attending public schools are acutely aware of this inequality, some voicing their resentment (e.g. "They have it made..."). Many middle-class parents look upon their child's education as a form of investment and would try to find the means to secure private education in the hope that their child's school achievement will make scholarship possible (Funkhouser, 1998). The school-year and day are structured in accordance with weather and climate characteristics. The school-year runs from February to mid-December. The school-day typically starts relatively early – at 7.00 or 8.00 o' clock and runs into the afternoon, with a relatively longer lunch-break around midday. As a more relaxed way of handling time is appreciably present – local authorities would tend to adjust school-times to local needs. Students with special needs are typically catered for in special education centres – which are by no means general and easily accessible. Home-work is not really characteristic in public schools – only in the third 3-years of compulsory schooling and mainly in courses designed to lead up to SAT making access to higher-education possible – which is an open option to students. Regarding behaviour management maintaining a good record of school attendance is though of as an important aspect, thus school-suspension as a last resort that is not typically pursued. Teachers are expected to manage classes and solve/resolve any issues that emerge.

The People's Republic of China

The law on a nine-year compulsory schooling was enacted in 1985. One way of resolving the huge financial burden this puts on the state was to share this responsibility with local public administration, while setting somewhat idealistic standards by the so-called key-schools. Key schools are present first and foremost in the costal parts – where our sample originates. A characteristic of these schools is that in spite of the fierce competition they do not alienate students – very similar to the situation in Japan (Fülöp, 2006). Students in elementary school also state that it is important for them to measure up to teacher expectations – and not only in the sphere of academic knowledge, but in regard to behaviour and extra assignments completed, as well. On the one hand this can be attributed to the fact that teachers are seen as absolute authority figures – whose wishes and commands must unquestionably be acted upon, and on the other to the fact that teachers of elementary schools have the right to nominate students to participate in key-school education, which is deemed superior and elite as compared to any other choice. Within public education the only possibility to receive good quality instruction is if you win the opportunity to enter a key-school – otherwise the relatively scarce and expensive option of private schooling remains. Private school – although beginning to emerge – are not characteristic at all. As no choices are available to the majority as students are assigned to elementary schools and choice of secondary school is severely limited by availability, the answer given to the question of prestigious schools is skewed. If asked about the prestige of different schools, key-schools are mentioned exclusively, but entering a key-school is not a question of choice but that of being chosen. Regarding a typical school day students list an impressively variable schedule that includes academics as well as traditional Chinese physical exercises and artistry. A typical school classrooms would not be diversified according to use – although more and more schools have "special rooms" (e.g. music room where there is a piano or musical instrument). Classrooms are furnished in a lecture hall style and teachers tend to use lectures, pop-quizzes and individual seat-work assignments. Pop-quizzes are seen as a further opportunity to

rehearse material – and not seen as intended to catch one off one's guard. Never the less, not knowing an answer would bee seen as a loss of face, which motivates the majority of students to keep up their efforts. An appreciable amount of mechanic memorizing is expected – as seen by students. Student compliance is mostly unquestioned. Interviewees had a hard time in conceptualizing what the question was referring to when asking about reactions given to non-compliance with rules and I had to make it very explicit. Homework is given on a regular basis and teachers set high expectations (I must hurriedly add – that the schools and students were from the costal region, thus the problems the majority of schools face in PRC are not characteristic, at all.) Even those not particularly interested in continuing their education would not dismiss knowledge itself as not being of value (which is in line with Confucian ethos, that knowledge is to be shared and is for the common good). Majority of students would not dare show disrespect for the teacher – as it would ruin harmony, and not doing what the group was doing would be seen as a serious breech of respect expected by society.

Vietnam

I did not have any opportunity to interview students. Once again my direct source of information came from my helper. Learning is usually of value – and families must in fact bear considerable costs – even in the case of "free" public education in the form of buying books. In this particular case – once again – we are talking of middle-class neighbourhood. As a function of parents' socio-economic status family values education and tends to see it as a way for upward mobility and the road leading to an easier life, albeit resources are differentially available to families (van de Walle & Gunewardena, 2001). There is a very caring climate in the Vietnamese society towards the young and a disinclination to use classically coercive techniques. This is a shared value among family and the school. Thus inclinations of the child are taken into account, but high standards are set in whatever youngsters do, be it homework or household chores. There is always someone around to help the child over transient difficulties and keeping motivation high. Schools are typically not a question of choice

but of availability. Attendance at a given elementary school is prescribed (no choice can be made), and secondary school chosen is primarily limited by availability. Teachers tend to set standards rather mechanically based on the curriculum, individualization of teaching is seen as limited by numbers in class. Parents and teachers share high standards regarding behavioural goals and misbehaviour is not a characteristic problem at school as teachers are seen as authority figures. Written homework is not routinely given in elementary schools – but according to school-type (whether they logically lead to higher education or not) high-schools place an emphasis on it. Teaching tends to be subject-matter oriented – although depending on composition of school teacher may face great challenges in teaching the curriculum (Aikman and Pridmore, 2001). Teachers themselves feel overworked and over-burdened in a school system where a high number of well-educated teachers are missing from the system (Hargreaves et al., 2001) anyway.

3. PROCEDURES

Adjustments made in the original questionnaire

Although standardization was performed, and reliability and validity of the original SSQ was examined on a large population (7402 persons), the fact that the sample all originated from the US means it reflects the overall macrosystem and characteristics of the Anglo-Saxon culture and thus restraints usability in a cross-cultural comparative study, although the original authors (Oakland et al., 1996) stress that different ethnic groups were purposefully included in the population.

One of the corner-stones of the research was to adapt the questionnaire to the purposes of an international, cross-cultural study and in doing so we were compelled to come to terms with an imported etic approach, although in interpreting the results we will try and accomplish a derived etic. In order to minimize possible distorting effects the process of double-blind translation and back-translation was used utilizing the native translators in each direction (Brislin, 1970; 1980). Furthermore a pilot-pilot

study was performed with 20-30 students from each country. In case of items where the original and the back-translation showed considerable discrepancy further discussions were initiated with the native of the country to identify possible sources of difficulties. It can be said that the most general problem arose from the translation of "project-work" and the idea of a "pyjama-party". It was envisioned that due to the many differing cultures involved, differences in connotation may render some of the items unusable. In agreement with original authors of the questionnaire, permit was received to shorten the original questionnaire in light of the outcome of statistical analyses.

As a first step, in order to determine which items within the dimensions-based four-factor model are functioning well and determine internal validity, factor analysis was performed and only those items were retained which loaded high on the factor and substantially contribute to reliability. As a result the originally 69-item scale was reduced to 57 items. The extraversion-introversion dimension has 19 items, the practical-imaginative dimension consists of 14 items, the thinking-feeling dimension includes seven items, while the organized-flexible dimension consists of seventeen items. The remaining items of the original are made available in the Appendix (Table A-2a-d), as well as the item-parcels within each dimension (Table A-3.). Confirmatory factor analysis was performed (results are displayed in Table A-4.a and Table A-4.b in the Appendix), as well as taking the procedure suggested by cross-cultural psychology (van de Vijver and Leung, 2000) into account the similarity of the solutions were examined (solutions by country are displayed in Table A-5.a – Table A-5.f in the Appendix). The solutions received country-by-country proved to be very similar: the highest loading of each item-parcel is on the factor predicted theoretically. In case of an item-parcel loading on more than one dimension – there are significant differences between values – suggesting that meaningful comparability across countries. Reliability (Chronbach-alpha) of factors uncovered by principle component analysis is between 0.75-0.82 (see Table A-6. in the Appendix). The total variance explained by each item parcel is depicted in Table 7 a-d in the Appendix.

We have modified the original weights attached, as in a cross-cultural comparative study weights developed in one macrosystem and culture cannot readily be applied in another. Thus, as a part of data analysis, responses on the four bipolar scales were transformed to reflect the extraversion – practical – thinking – organized preference as the positive value, while the respective opposite sides of the dimensions were assigned negative values. In order to be able to make meaningful comparisons and offset possible distortions due to differences in response style, responses to the original 69-time questionnaire and to the shortened 60-item version were both normalized separately by dimensions.

To determine whether presenting changes due to shortening the questionnaire are significant Pearson's correlation coefficient was calculated, utilizing the z-scores of the original and shortened versions. The results are displayed in Table V-2., showing that the shortening of the questionnaire does not effect the outcome in a significant manner.

		shortened version			
		E	P	T	O
original version	E	r=0,842			
	P		r=0,735		
	T			r=0,862	
	O				r=0,872

Table V-2. Pearson's correlation coefficients of dimensions between the original and shortened questionnaire ($p<0.01$)

From each country 20-25 students repeatedly filled in the questionnaire, altogether 134 students, with an interval of 5 to 7 months between the test-retest occasions. Prevalence based T-score units were utilized and the mean reliability coefficient was calculated using Fisher's z transformation (Marsh et al., 1992). The results (Table V-3) show that patterns remain relatively stable. Change within a dimension was calculated by subtracting students' score on the first completion from their score on the second completion. The largest difference occurring is in the organized-flexible participated in this sample, exactly the age-range where the

greatest age-related change occurs in this dimension. The second largest change occurs in the practical-imaginative scale – although still relatively small, indicating

Scale	Reliability coefficient	First completion		Second completion		Change score
		M	SD	M	SD	
Extraverted-introverted	.80	53.5	11.6	54.1	12.6	0.6
Practical-imaginative	.70	48.8	10.1	50.2	10.8	1.4
Thinking-feeling	.78	50.2	11.9	50.9	13.1	0.7
Organized-flexible	.67	52.7	11.1	54.9	11.9	2.2
M	.74					

Table V-3. Test-retest reliability (N= 135)

that professionals can expect few score changes over a 5-7 month period. Results do indicate however, that age-related changes in preference might affect total outcomes. These results are in concordance with original findings of the authors (Oakland et al., 1996).

Contrast tests

By using the transformed z-scores of the original data, not only response tendencies were normalized, but in effect a nomothetic approach was possible. Before continuing our analysis, interactions of different independent variables had to be determined. As apparent from univariate analysis of variance (UNIANOVA) (see Tables A-8. a-d in the Appendix), the main interaction factor is the independent variable of country – which at this point we would transform to the concept of culture – taking into account that data was collected in a well-defined region within a country, thus representative of the particular ethnic group inhabiting the region. Never the less, for the sake of simplicity we will be referring to the data by country. Basic descriptives

are provided in Table A-10. in the Appendix. As interactions were found, although multivariate analysis (MANOVA) were performed (results are displayed in Table A-11 in the Appendix), we continued to look for statistics with strength that would not be sensitive to interactions.

Based on the results from the above procedure one-way ANOVA contrast tests were performed to identify the effect of culture separately for each dimension – for the sake of simplicity here we refer to countries. As a refinement and reflection to the first and second hypothesis contrasting of collectivist and individualist countries was also performed as a function of the four dimensions and as a refinement and a hoped for answer to hypothesis four. the position of Hungary as a third contrasting agent to collectivist and individualist countries was also accounted for. Although significant interactions were found between age and gender, in order to sort findings of multivariate analysis (MANOVA), contrast tests of gender across countries were performed for males and females separately comparing them across countries on the four dimensions in order to reflect on hypothesis # 5 & 6. In order to be able to untangle the interaction age-related statistics were performed, namely contrasting of 9 and 15 years-olds; within country contrasts of different age-groups and contrasting of 9-11 to 13-15 year-olds across countries on the four dimensions was also performed. In order to identify whether the significant difference incorporate meaningful size-effect, ANOVA contrasts tests were supplemented by utilizing Cohren's effect size. Effect size can have a limiting effect on the interpretation of data (Thompson, 1998), as in case of a significant difference in the ANOVA contrast, as p values do not tell us anything about the magnitude of the significance or about the probability of its replication of a study" (Thompson, 1998, p.36). Thompson (1998) also states that effect size should only be considered when any other statistical procedure used to test the null hypothesis has already proven to be significant. Thus Cohen's effect size has two limiting factors: we can only consider an effect as really significant and replicable if the statistical outcome is significant, i.e. Cohen's effect size is higher than 0.2 . Regression analysis was used to determine whether age-related changes which are developmental by nature are identifiable alongside significant ANOVA data. This is important as

previous research suggests developmental issues regarding growth in extraversion and a preference for flexibility (Oakland et al., 1996).

Chi-square tests

By identifying the dimension most characteristic of the subject (the dimension with the highest absolute value) an idiographic approach is possible and thus we may be more successful in mapping persons' characteristics along the dimension that the person himself would subjectively judge as most important. Chi square cross-tabulations were performed on first order idiographic characteristics as a function of aggregated independent variable of age*country and gender*country. Age*country and gender*country variables were also developed along collectivist-individualist combinations, as well. In order to unravel the interaction between gender and age, the same was performed for the aggregate independent variable of age-gender for all four dimensions.

The main aim with utilizing an idiographic approach is not necessarily to implement an individual-level approach, but to be able to pin-point elements that might be of importance in generating meaningful country-level comparisons by identifying those dimensions that are likely to be perceived as pervasive and thus their frequency in a given nation-sample might well be utilized as a basis for characterizing the country-sample itself.

VI. RESULTS AND DISCUSSION

1. INTERACTIONS

In describing which independent variables – aside from countries/cultures – effect the dependent variables of the four dimensions General Linear Model of multivariate analysis of variance were scrutinized (MANOVA). In all countries gender and age both have a significant effect on dependent variables of SSQ dimensions (Table A-8a-d in the Appendix) – except for Vietnam, where gender does not significantly influence covariates. By utilizing this approach we are basically utilizing an individual-level macro approach – at the same time this is the second step taken towards country-sample level comparisons (the first one being the identification of construct similarities in the different countries), albeit cautious – as emerging differences may not all be attributable to cultural differences by themselves, thus interactions need to be taken into account.

On closer examination of results (Table A-11.a and b in the Appendix) we can see, that preferences in the dimension of practical-imaginative are not effected by gender, only by age (except in Costa Rica and USA where preferences are unaffected by either gender or age), while the thinking-feeling dimension is universally significantly affected by gender in all countries, while age also influences it significantly in two of the countries (Australia and Hungary), which corroborates our initial notions that schooling and growth of knowledge, as well as learning experiences provided by the environment will have significant effects on preferences regarding type of information processed and that gender has a significant role to play in every society on the way decisions are made, no doubt due to universally differential socialization procedures. In the dimension of practical-imaginative initial preferences would be influenced by early socialization processes within the family, which also tend to be differentiated according to namely girls are expected to participate actively in household chores earlier on and in a more consistent fashion, than boys (e.g. Schweder et al., 1998; Nguyen et al., 1999; Ryndstøm, 2001; Wang, 2004; Harkness and Super, 2006) which may thereby be a mediating factor in gender-

related interactions. On the other hand age-related developmental changes also occur in the cognitive system of information-processing and thought-systems – providing more efficient tools for complex information processing as children move from preoperational, to concrete operational and formal thinking as they develop (Piaget & Inhelder, 1999). These two elements could be posited as basic elements that influence dependent variables and reflect in interactions. This joint influence is furthered by formal schooling, in which the content and type of information presented at different age-levels would be influenced by the values and goals the given society attaches to different elements of the knowledge base. Although this would constitute a unified influence regarding school-children the differential reinforcement provided by teachers and experienced by students - would in fact modify this (Ho, 2004; Jones and Wheatley, 1990; Keogh, 1982).

A further line of thought can be followed in the case of the organized-flexible dimension: namely age has a significant effect on this dependent variable (albeit sometimes in interaction with gender), which also seems to corroborate the common experience that younger children find comfort and assurance in a relatively more organized space and time-schedules, while older children will tend to find these restrictive and cumbersome. Socialization processes that would influence the emergence of preferences along this dimension would be the degree of self-reliance expected by socialization agents on the one hand – and degree of freedom ensured in making independent choices and to the degree that individual, independent and self-initiated choices are seen as desirable by the individual and socializing agents (Schweder et al, 1998).

A further analysis attempting to unravel developmental issues at the individual level can be attempted by performing within country comparisons and identifying possible emerging similarities among countries. This line of thought will be further pursued later on, but now let us turn to country-level comparisons.

2. CONTRAST TESTS – COUNTRY COMPARISONS

When contrasting countries with the others (see Table A-12., Table A-13., Tables A-14.) we find that while PRC and Hungary country-samples do not differ significantly from the others on the extraversion-introversion dimension, students from Australia and Vietnam prefer introversion significantly more than their Costa Rican and American counterparts, as compared to other countries in the sample. One of the reasons for this is that in the PRC there is a developmental shift from extravert to introvert along the age continuum, which we will note later when discussing developmental issues, and as a result the whole country sample means is around zero – which is a by-product of interaction between age and the measured dimension itself. This result gives us opportunity to ponder over our second hypothesis, which expects a preference for introversion to be characteristic and is not confirmed by statistical data. Although PRC, Vietnam and Costa Rica as countries would be a member of the collectivist group of countries, as identified by Hofstede (1994), there are notable differences between cultures regarding acceptance of impulsive reactions and expression of emotions, and the need to establish self-control relatively early on in the socialization process. The outstanding introversion characterizing Vietnamese youth may well be a consequence of procedures adopted in socialization. A recount of Vietnamese kindergarten practices may be considered as an example. Rydstrøm (2001) recounts an experience in a Vietnamese kindergarten when she was visiting there, namely a kindergarten teacher assigned the roles that boys and girls have to take during free-time role-play and children were differentially reinforced based on their compliance with the assigned role. This „snapshot" tells as much about the fact that not only families reinforce certain behaviours, but the well-established kindergarten facilities also explicitly formulate norms regarding behaviour – at a very early age. This also means that persons do not necessarily have to search for clues in early socialization, but are explicitly told when and how to behave in order to be accepted – this also means that persons do not necessarily have to pay such close attention to cues from the outside as in individualistic countries. Another aspect we might want to visit is behaviour towards in-groups and out-groups. In

collectivist societies persons tend to have fewer in-groups (and very often the person is assigned to the group and not necessarily chosen by the person) – and any person who is not a member of the in-groups is seen as a member of an out-group and treated as such. In comparison, in an individualistic society persons have many more in-groups, more often of their own choice and if a person is not a member of any of the in-group, the given person not necessarily seen or handled as a member of an out-group (Triandis et al., 1988). Thus people in individualistic cultures often have greater skills in entering and leaving new social groups. They make "friends" easily, but by "friends" they mean non-intimate acquaintances. People in collectivist cultures have fewer skills in making or acquiring new "friends," but a "friend" in their case implies a life-long intimate relationship, with many obligations. So the quality of the friendships is different. This difference in quality may complicate our understanding of the construct of collectivism, since people in individualistic cultures are likely to *appear* more sociable, while intimacy is not a readily observable attribute. A real challenge is posited to the hypothesis by youth in Costa Rica, who tend show a preference for extraversion – inconsistent with the hypothesis. One possible alternative explanation might lie in the *type* of collectivism. In Costa Rica – as opposed to the other two countries assigned to the collectivist group – is characterized by horizontal collectivism, which would emphasize sharing and equality, with not much differentiation between individuals and in-groups tend to be large, encompassing a whole smaller village or neighbourhood. As power-distance is small, the rules of communication would tend to be more flexible and open as members are attributed equal ranks, which would liberate communication patterns and facilitate collaborative rule-defining procedures, making interaction and socialization easy. In the dimension of practical-imaginative – Hungary does not differ significantly from the average of the rest of the sample, while youth from Australia, Costa Rica and USA prefer an imaginative style significantly more as compared to others, while their Chinese and Vietnamese counterparts tend to prefer a relatively more practical orientation. According to hypothesis three, an eco-cultural assumption would predict that youth in all three countries from the economically

less developed regions, i.e. Costa Rica, PRC and Vietnam would be characterized by a practical preference, but this only partially holds true. An alternative explanation could well be the alternative media usage and availability – which is characteristically different between the three collectivist countries. While media plays less of a role in socialization in China and Vietnam, it is readily available to children and families in the cities of Costa Rica (Budde, 2006 a & b). Another alternative is the way children are made a part of family life. In Costa Rica – based on emic research – children have a childhood to enjoy – without necessarily being drawn quite early on into household chores (Rosabal-Coto, 2004). At the same time both in China and Vietnam children are expected to be a contributing member of the family very early onwards by helping around the house in age- and gender-appropriate tasks (Gallina and Masina, 2002; van de Walle & Gunewardena,2001). A very similar pattern of split between countries can be seen in the dimension of thinking-feeling: namely students from Hungary do not differ significantly from the sample-average, while youth from Australia, Costa Rica and USA prefer a thinking style significantly more, than their Chinese and Vietnamese counterparts when compared to the whole sample, while Chinese and Vietnamese youth are characterized by a feeling preference in a significant manner. This questions the sustainability of our original Hypothesis 1., in which we argued for a more "feeling" preference in collectivistic countries – as hypothesized based on Hofstede's country descriptions -, based on the fact that self-construal in these countries would be more group-based – or some other value-systems might be addressed. This holds only partially true: namely in the case of China and Vietnam. This might be in line with the differences between collectivist countries. In East Asian collectivist cultures harmony is the desired goal, while in Latin-American cultures it is the question of dignity. This also means a difference in orientation towards social interactions and the perception of and expression of emotions. Namely, East Asian cultures of collectivism do not ascribe to intense expression of emotions, and when making judgements tend to base judgements on the assumed subjective experience of the expressor (Matsumoto, 2006) – and have identified differences according to the intensity of the emotion judges, namely, in

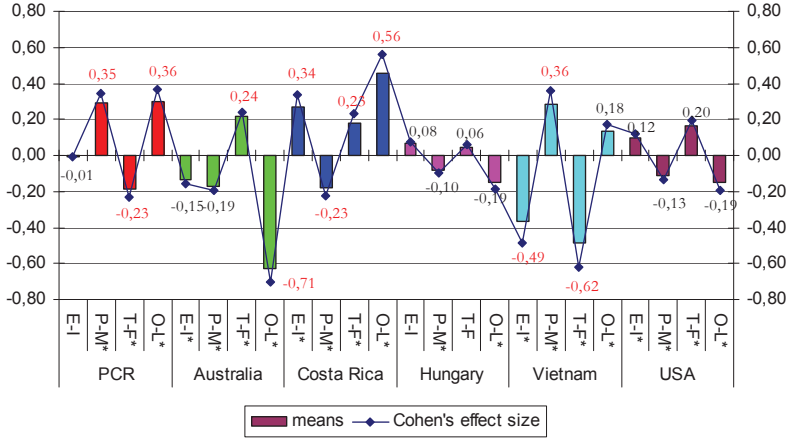
case of low-intensity emotions the previously described reactions are given, but in case of high-intensity emotions, they felt that the expression of emotions is subjectively justified. Of course if we continue the line of thought already started regarding media usage we may also reason with catharsis theory – which would predict that the amount of aggression experienced during viewing TV programmes make children more insensitive or apathetic

	factor	mean	effect size *d*	
PCR	E-I	-0,007	-0,009	
	P-M	0,290*	0,348**	small
	T-F	-0,183*	-0,228**	small
	O-L	0,298*	0,365**	small
Australia	E-I	-0,133*	-0,154	
	P-M	-0,171*	-0,192	
	T-F	0,215*	0,239**	small
	O-L	-0,625*	-0,706**	medium
Costa Rica	E-I	0,272*	0,335**	small
	P-M	-0,176*	-0,226**	small
	T-F	0,183*	0,234**	small
	O-L	0,454*	0,563**	medium
Hungary	E-I	0,064	0,077	
	P-M	-0,079*	-0,095	
	T-F	0,048	0,060	
	O-L	-0,148*	-0,189	
Vietnam	E-I	-0,370*	-0,485**	small
	P-M	0,287*	0,357**	small
	T-F	-0,487*	-0,618**	medium
	O-L	0,133*	0,175	
USA	E-I	0,099*	0,122	
	P-M	-0,109*	-0,133	
	T-F	0,163*	0,197	
	O-L	-0,152*	-0,194	

E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized – flexible

(* country mean significantly differs from the contrast mean on a $p<0.05$ level; ** effect size is significant $d>0.2$)

Table VI-1. Significance of between country ANOVA contrast comparisons of means and Cohen's effect size



E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized – flexible
(* designates the contrast of means is significant on $p<0.05$ level; red numbers designate significant [$d>0.2$] effect size)

Figure VI-1. Significance of between country ANOVA contrast comparisons of means and Cohen's effect size

towards situations carrying strong emotions. In the organized-flexible dimension – youth from PRC, Vietnam and Costa Rica prefer a less flexible style significantly more than their American, Australian and Hungarian counterparts. One could postulate that high uncertainty avoidance would be a plausible mediating element between culture and the individual via the socialization process – as it would create a social system where every action, object and expression has its own time and place, but there are other alternatives. Long-term goal orientation as a cultural characteristic might well influence socialization processes to put a high value on persistence and delayed gratification – which both tend to reinforce a more organized functioning. Although both scenarios are plausible, they are not shared common characteristics of the cultures under scrutiny. A third possible option is that the referential nature of relationships (Choi and Kim, 2004) and the need to control emotional expression (Matsumoto, 2006) means that given norms, expectations and traditions have to be

observed – which once again would result in a socialization pattern that reinforces delayed gratification and persistence if face of difficulties – resulting in a preference for a well-structured time and space. A further possible interpretation of this result concerns the degree of freedom and personal responsibility provided to the individual by socialization procedures – which would also influence preferences expressed on this dimension. The earlier personal choices are allowed and individual responsibility for them expected to be taken the more opportunity for learning flexible adjustment processes are ensured. This type of experimentation is curbed if responsibility for the whole in-group is emphasized as it may well serve as a restraining force – and as self-construal is based on the relational aspect with the in-group it would indeed even be a threat to the self.

In summarizing the four dimensions emerging as characteristic of a country-sample in comparison to others, we may say therefore that youth in PRC is characterized by a marked significant preference for an organized, practical and feeling preference, and its positioning in the extraversion-introversion dimension is not characteristic. How can we conceptualize this relative non-introversion of Chinese youth? What element could explain this? One of the possible explanations comes from sample characteristics. Namely our sample from China originates from Hangzhou and its region – an urbanized coastal region. Based on data from 16 countries (Georgas et al., 2001) we can safely say that changes in societies have resulted in traditional values being pushed more and more to the background, and urbanization in China (Zheng et al., 2004; Choi & Kim, 2004) leading to traditional values being interchanged with values generally more common in individualistic Western societies: competition, future-oriented, change, progress, pragmatism, equality, analytical knowledge. We can state the same in the case of Vietnam – with the exception that youth in Vietnam are characterized by a significant preference for introversion. The extreme preference for a feeling style in the Vietnamese sample may be attributed to more than one factor. One is the above-mentioned media-usage. The other alternative explanation is the shared characteristic with Chinese cultural traditions – the importance of harmony not only with others, but the value of internal

harmony, as well. The third possible alternative could be tied to the fact, that the long war has left most families affected in one way or another – and we can safely assume that the grieving process has not been totally completed – as there are still generations living for whom the war was a reality not only a fact in history. Compared to the abundant literature on the effect of the Vietnam war on American soldiers we did not find substantial information on this matter concerning Vietnamese soldiers. Youth from the US and Australia are characterized by a preference for an imaginative-thinking and flexible style, the only difference being in the dimension of extraversion-introversion. Youth in the US is characterized by a preference for extraversion, which is in consonance with previous line of thought characterizing individualist countries with extraversion due to the need of being proactive in seeking membership, while in Australia a preference for introversion is characteristic, which runs contrary to expectations and we cannot account for at this time. A marked characteristic of students in Australia, setting them apart from all others, is their significant preference for a thinking and flexible style. The flexibility of youth in Australia is outstanding and may well be attributed to the fact that it is still very much a host country, still being a country of destination for many immigrants. The relatively steady flow of newcomers also means that concepts must be kept flexible in order to be able to cope with the ever growing variance in the environment – differences in values, norms and traditions. On the other hand youth in the US do not differ significantly from the whole sample. The same statement can be said about students in Hungary, as well. Youth in Hungary and Costa Rica – if taking the whole picture into account – are alike in many aspects as the tendencies in three of the four dimensions are quite similar (albeit non of these are significant in the case of Hungary): a preference for the extraversion and imaginative end of the continuum, while in the thinking-feeling dimension youth in Costa Rica are characterized by a preference for a thinking orientation, while Hungarian students do not differ significantly from the average. Another marked difference between these two countries stems from their differential preferences for an organized (Costa Rica) versus flexible (Hungary) style. Costa Rican youth is set apart from the whole

sample by the significant preference for an organised and extrovert style. Notable the preference for extroversion warrants further attentions. In this case we cannot say that there is a marked change-process in the society– although urbanization is present as in any other country. The difference that can set Costa Rica apart from other countries labelled as collectivistic is views on and handling of peer-relations. In Costa Rica – although extended family is a natural environment – neighbourhoods and communities play an increasing role (as in harmony with horizontal culture values would tend to align relations with physical characteristics and natural boundaries of settings as opposed to primarily authority-based approaches), where the boundaries of extended families tend to dissolve and the whole community – including the child's peers as members of this in-group. If we reflect on the items of the questionnaire – we will find that a number of questions reflect on peer-relations. Thus when socialization also puts an emphasis on peer culture – responses will sensitively reflect this – easily providing an outcome of extreme extraversion preference.

If we pick up the line of thought suggested by examining interactions we now continue with one inspired by a developmental aspect, when comparing by contrasts (ANOVA) the dependent variables along the four age-groups (9,11,13 & 15) between countries, results clearly show an age-related issue being addressed in the dimensions of practical-imaginative ($df=3$; $MS=8.79$; $F=8.87$; $p<0,00$) and organized-flexible preferences ($df=3$; $MS=94.03$; $F=105.96$; $p<0,00$). We would argue that these effects can be related to developmental issues. More refined analysis contrasting countries within the same age-group (Tables A-15, A-16,A-17. in the Appendix) show us that youth in PRC only differ significantly from other countries on the dimension of extraversion-introversion at age 9 – significantly preferring extraversion as compared to other countries. There is however a marked significant decrease in this extraversion by age 15 (Table V.-4) arriving at introversion in its absolute sense. The initial extraversion runs contrary to expectations, but current research may shed light on the reasons for this unexpected outcome. Our hypothesis was based on the assumption that in collectivist societies interrelated family models and culture would

predict that individuals are mainly born into in-groups or assigned to them, which harmonizes with the fact that children – under these circumstances have a high utilitarian value. Current value-of-children research has underscored the effects which Chinese family-planning initiatives have on value systems (Zheng et al., 2004), namely that the older generation of parents still hold collectivist values, but when it comes to the younger generation of teenagers, they tend to endorse individualist values. Another fundamental change occurring world-wide (Georgas et al., 2001) is the restructuring of the family itself (specially in regards to this sample) – where utilitarian value of the child decreases – parallel to an increase in fulfilling emotional needs, expression of emotions. As a result, extrovert styles may be adopted, but as cultural forces increasingly impinge on the individual, this gradually changes. On the other three dimensions PRC significantly differs from other countries in the age-groups of 11 and 13 years, consistently showing a practical-feeling-organized preference. By age 15 youth in PRC do not differ significantly from other countries in any of the dimensions. As can be seen on Figures V.2-V.5 this is due to the fact that means of preferences show a tendency to come closer to the median zero baseline, thus characteristic extremes gravitate to zero. Vietnamese students significantly differ in all age-groups from their peers in both the dimension of introversion and feeling, showing the highest preference among countries in these two dimensions. Why can this be so? The very nurturing and caring early-childhood close family relationships characteristic of the culture also serve as shelter for the young – where anyone outside the family is a part of the out-group can be a relative source of introversion. In country depictions (Hofstede, 1994) Vietnam is described as a relatively feminine culture, which would also mean the acceptance of feelings and cooperation are norms, although the open expression of feelings is not commonly accepted, mostly restricted to certain situations (e.g. when men gather to drink together). This is also evident in the way parents chose early childhood environment: one of the main points of consideration being the caretakers' caring attitudes (Wise, 2005). Students from Vietnam are significantly more practically oriented than their age-mates in all age-groups except at age 11 (when there is a

significant decrease in their practical-orientation), and significantly prefer an organized style than your from other countries in the age cohorts of 13 and 15 years of age (it is worth noting that Vietnamese students are the only group within the sample who maintain their organized preference throughout the age-cohorts). Youth from the US do not differ significantly from the other countries in the dimension of extraversion-introversion. In the practical-imaginative dimension only the 9 years olds are significantly more imaginative than youth from other countries, at age 11 and 13 years youth are significantly more flexible preferring, and at age 15 they are characterized by significantly higher thinking preference than their age-mates in other countries. Australian youth are characterized by a significant preference for a flexible style in all age-groups as compared to their age-mates. Students in Australia prefer thinking style in all age-groups, but significantly differ from age-mates in their preference in the age-cohorts of 11 and 13 years of age. In the dimension of practical-imaginative, Australian youth significantly differ from age-mates with their expressed thinking preference at 9 and 11 years of age. At age nine Australian youth are significantly more introverts, than the rest of the age-cohort. Hungary significantly differs from other countries in the extraversion-introversion dimension in the age-cohort of 9 years of age with expressed extraversion, in the practical-imaginative dimension students significantly differ from their age-mates at 11 years with their practical preference and at 15 years of age with their imaginative preference. In the thinking-feeling dimension there are significant differences in three age-cohorts: at age 9 and 11 youth significantly differ with their preference for thinking, while at age 15 feeling preference characterizes Hungarian youth in comparison to youth in other countries. In the dimension of organized-flexible at age 9 a significant difference exists between Hungarian youth and other countries with their preference for organized and at age 15 with their preference for flexibility. Costa Rica is characterized by a significant preference for extraversion in comparison to all age-groups in all countries. This significant difference from all countries in all age-groups is present in the dimension of organized-flexible, where Costa Rican youth is significantly more organized preferring than those in other countries at age

9, 11 and 13; and significantly flexibility preferring at age 15. In the dimension of practical-imaginative Costa Rican youth is significantly more practical at age 9 and imaginative preferring at ages 11 and 13 than youth in other countries. In the thinking-feeling dimension Costa Rica is significantly different than other countries in the thinking direction at age 9, 13 and 15 years of age.

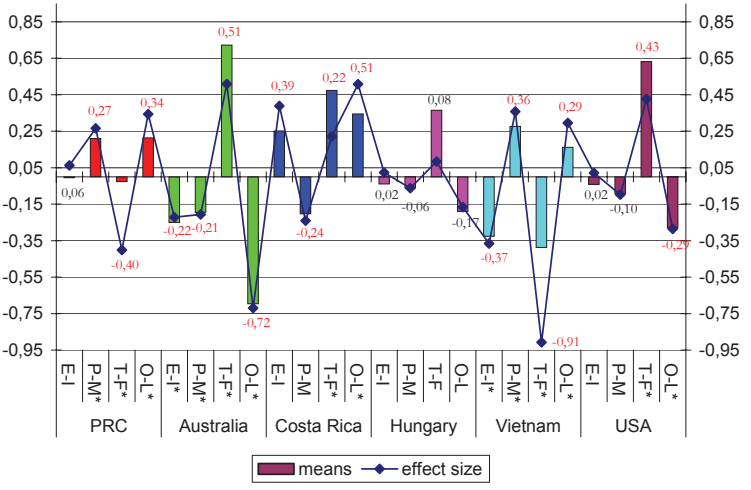
		means	*d* effect size	
PRC	E-I	-0,01	0,06	
	P-M*	0,21	0,27**	small
	T-F*	-0,03	-0,40**	small
	O-L*	0,21	0,34**	small
Australia	E-I*	-0,25	-0,22**	small
	P-M*	-0,19	-0,21**	small
	T-F*	0,72	0,51**	medium
	O-L*	-0,70	-0,72**	medium
Costa Rica	E-I	0,25	0,39**	small
	P-M	-0,20	-0,24**	small
	T-F	0,47	0,22**	small
	O-L*	0,34	0,51**	medium
Hungary	E-I	-0,04	0,02	
	P-M	-0,06	-0,06	
	T-F	0,36	0,08	
	O-L	-0,19	-0,17	
Vietnam	E-I*	-0,33	-0,37**	small
	P-M*	0,28	0,36**	small
	T-F*	-0,39	-0,91**	large
	O-L*	0,16	0,29**	small
USA	E-I	-0,04	0,02	
	P-M	-0,09	-0,10	
	T-F*	0,63	0,43**	small
	O-L*	-0,28	-0,29**	small

E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized – flexible

(* country mean significantly differs from the contrast mean on a $p<0.05$ level; ** effect size is significant $d>0.2$)

Table VI-2. Significance of between country ANOVA contrast comparisons of means and Cohen's effect size in the case of males

When examining the effect of factors we concluded that gender as an independent variable has differential effects on the dimensions. Continuing our original line of thought in characterizing the sample we contrasted one country with all the others splitting the sample by gender (One-Way ANOVA contrasts) (Tables A-27 – A-31 in the Appendix).



E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized –flexible (* designates the contrast of means is significant on p<0.05 level; red numbers designate significant [d>0.2] effect size)

Figure VI-2. Significance of between country ANOVA contrast comparisons of means and Cohen's effect size in case of males

In the case of extraversion and introversion Costa Rican boys and girls alike are more extravert than the sample gender-mean, while both genders in Vietnam are more introvert than the sample mean. In the case of Australia, boys are significantly more introvert than the sample, while in the case of girls both the Hungarian (although effect size in not significant) and the US female sample are significantly more extravert than the sample average. Thus the differential effect of gender can be seen in the case of Hungary, Australia and the US, i.e. in all individualistic countries. In socialization practices it may mean that in the socialization process more emphasis is given to differential attitudes towards the social contacts of different genders. While girls' social play is differentially reinforced, boys' object-oriented activities are in the forefront of attention (Golombok & Fivush, 1994), which may surface as preferences for extraversion

	means	*r* effect size	Cohen's *d*

PRC	E-I	-0,01	-0,08	
	P-M*	0,37	0,43**	small
	T-F	-0,34	-0,07	
	O-L*	0,38	0,39**	small
Australia	E-I	-0,04	-0,11	
	P-M*	-0,15	-0,18	
	T-F	-0,21	0,10	
	O-L*	-0,57	-0,71**	medium
Costa Rica	E-I*	0,29	0,29**	small
	P-M	-0,15	-0,21**	small
	T-F*	-0,10	0,26**	small
	O-L*	0,56	0,62**	medium
Hungary	E-I*	0,17	0,13	
	P-M	-0,10	-0,13	
	T-F	-0,27	0,02	
	O-L*	-0,11	-0,21**	small
Vietnam	E-I*	-0,42	-0,60**	medium
	P-M*	0,30	0,36**	small
	T-F*	-0,59	-0,40**	small
	O-L	0,10	0,06	
USA	E-I*	0,23	0,21**	small
	P-M*	-0,12	-0,16	
	T-F	-0,27	0,02	
	O-L	-0,03	-0,12	

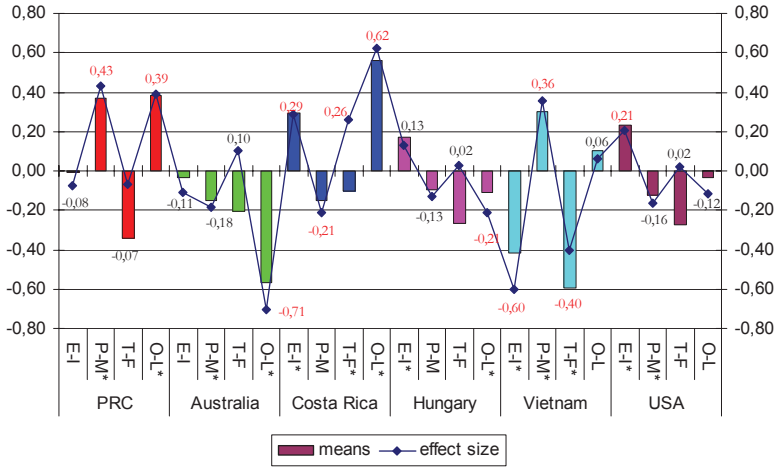
E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized – flexible

Table VI-3. Significance of between country ANOVA contrast comparisons of means and Cohen's effect size in the case of females

(* country mean significantly differs from the contrast mean on a $p<0.05$ level; ** effect size is significant $d>0.2$)

versus introversion. The same patterning appears in the case of both genders in the dimension of practical-imaginative. Both genders tend to be characterized by significantly higher preferences for an imaginative style in the case of Australia and Costa Rica (as compared to the respective gender sample mean), while in the case of PRC and Vietnam both genders significantly show a higher practical preference than the same-gender sample average. Once again a differential effect of gender can be seen in the case of the US, where only girls are characterized by significantly higher imaginative preference than the average. In the thinking-feeling dimension there is a differential effect of gender, as mainly the results of boys tend to differ significantly from the average. In the case of boys, males from PRC and Vietnam show a

significantly higher preference for a feeling style than their counterparts from other countries, while males from Australia, Costa Rica and the US are characterized by significantly higher thinking preference than the gender mean – as represented by Hungarian boys. In the case of girls, Costa Rican and Vietnamese females differ significantly from the average: Costa Rican girls show significantly less preference for a feeling style than the sample gender-mean, while Vietnamese girls a significantly higher one. On the whole this is the dimension where –relative to each other, we may state the males can be characterized by a relative thinking preference as compared to females – which verifies our hypothesis 5 regarding gender-specific socialization. At the same time our results shed light on an interesting phenomenon – namely culture mediated values regarding emotional expression may be a heart at the relative difference between genders: namely in Vietnam and PRC, both countries where socialization for obedience and duty are emphasized and expressions of personal emotions are regulated by rules, ability to restrain oneself is an important value (Kitayama & Markus, 1994; Kitayama et al., 1997). In the dimension of organized-flexible boys and girls differ in the same manner in three of the countries. Chinese and Costa Rican boys and girls significantly prefer an organized style much more than the average of their counterparts, while Australian girls and boys show a significantly higher preference for a flexible style than their same-gender counterparts. There are gender-related differences in the other three countries. In Hungary only the girls tend to prefer a more flexible style, than girl counterparts (boys do not differ significantly from the average of the male sample), while in Vietnam the boys are significantly more organized preferring, while in the US boys significantly prefer flexibility than the male sample on the whole. Thus gender related differences emerge (as compared to same gender) in three countries: Hungary, Vietnam and the US. Framing it according to genders we may say that in case of males, boys from PRC, Costa Rica and Vietnam are characterized by a significantly higher preference for an organized style than the sample gender-mean, while boys in the



E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized –flexible

(* designates the contrast of means is significant on $p<0.05$ level; red numbers designate significant [$d>0.2$] effect size)

Figure Vi-3. Significance of between country ANOVA contrast comparisons of means and Cohen's effect size in case of females

US and Australia show a significantly higher preference for a flexible style. Hungarian males' preference for flexible style does not differ significantly from the sample mean. This patterning may be seen as a reflection of economic development of countries, but may be seen as a cultural patterning, as well. In economically less developed countries the majority of job-opportunities would tend to be mechanic and repetitive, which can be better accepted if one values order. On the other hand a culture which values obedience and promoting others' goals would tend to socialize youth to restrain themselves, – thereby order becomes a value for the individual, as well. In the case of females girls from PRC and Costa Rica prefer an organized style to a significantly higher degree, while girls from Australia and Hungary prefer a flexible style to a significantly higher degree than the sample gender-mean. This patterning is similar to that which surfaced in case of males.

3. TWO SPECIAL ASPECTS: THE CASE OF HUNGARY AND COSTA RICA

Taken into account that countries were grouped a priori into a collectivist (PRC, Vietnam and Costa Rica) and an individualist (Australia, Hungary and USA) group, based on value-similarities that effect socialization practices, and the fact that we found interactions with age in previous MANOVA tests, we will now take a closer look at the results in the light of this differentiation among countries. We found that if we examine the above groupings there are significant interactions along age, thus based on the results above we further reduced the grouping to find that if Australia and USA are grouped under the term "individualist" and PRC and Vietnam are grouped under "collectivist" MANOVA analysis does not show any interactions with factors of age and gender, meaning we may safely use these combined groups as basis of analyses. If we take mean values as a basis of departure, we can say that the two countries of PRC and Vietnam as a dyad, they are – on the whole - characterized by an introversion-practical-feeling and organized preference, while just the opposite holds true for the US and Australia country-dyad– although the preference for an extrovert style is not expressed, but if contrasted these differences become expressed (E: SE=0.12; t=-3.53; $p<0.001$; P: SE=0.12; t=8.53; $p<0.001$; T: SE=0.12; t=-10.62; $p<0.01$; O: SE=0.12; t=12.71; $p<0.001$). If the values of Hungary (as a presumed individualist country) are contrasted with those of collectivist countries, we will find that outcomes significantly differ from the results of the collectivist group on all dimensions with its preference for extraversion-imaginative-thinking-flexible style (E: df=5, F= 20.17, SE=0.12 t=4.34, $p<0.01$; P: df=5, F=20.27, SE=0.12 t=-6.32, $p<0.01$; T: df=5, F=31.76, SE=0.11 t=6.94, $p<0.01$; O: df=5, F=66.97, SE=0.10 t=-7.1, $p<0.01$). If we compare results of Hungary to the combined outcome of the other two countries in the individualist countries, we find that there is no significant difference between them in the extraversion-introversion and the practical-imaginative dimensions, while there is a difference both on the thinking-feeling (ANOVA contrast: SE=0.12; t=-2.39; $p<0.017$) and the organized-flexible

dimension (ANOVA contrast: SE=0.11; t=4.22; p<0.001). These significant differences mean that students in Hungary are more likely to be characterized by a lower preference for thinking and flexible style than those living in the other two individualist cultures – although retaining thinking and flexible preference in mean values. We may say therefore, that socialization practices in Hungary would tend do differ from those characteristically employed in individualistic countries – which is just the case –as reflected by changes in the public mind (Hunyady, 1996). As a result of political forces after World War II a "imported collectivist" value system became the norm for generations. At the time of data gathering the subjects are the first generation to grow up totally free of such pressures, but the parents and socialization practices adopted by them would undoubtedly be influenced by their own socialization into adulthood – much similar to the outcomes of birth-control and rapid social changes that can be identified in PRC, where the value-system of parents and children (current subjects in the research) show marked difference in their value systems (Zheng et al., 2004).

Costa Rica was presumed to be a part of the collectivist group of countries, but due to interactions it was decided that it be removed from the group- which left the remaining two countries (PRC and Vietnam) without interactions within the group. When we compared result from Costa Rica to the remaining country dyad of PRC and Vietnam, we found that preferences in the Costa Rican sample significantly differ from those of the country-dyad on all four dimensions (E: df=5, F= 20.17, SE=0.12 t=8.11, p<0.01; P: df=5, F=20.27, SE=0.12 t=-8.74, p<0.01; T: df=5, F=31.76, SE=0.11 t=9.69, p<0.01; O: df=5, F=66.97, SE=0.10 t=4.74, p<0.01). In one dimension, the organized-flexible, the absolute preference is the same, i.e. Costa Ricans and the other two countries all are characterized by a preference for organized, but this is significantly more so in the case of Costa Rica. In the other three dimensions Costa Rica is characterized by opposite preferences as compared to the remaining country dyad of PRC and Vietnam, namely a preference for extraversion, thinking and imaginative style. This puts Costa Rican youngsters closer to preferences characterizing individualist countries, but is it so? Costa Rican youth significantly

differ from individualist countries in their preference for extreme organized preference while individualist countries prefer extreme flexibility (ANOVA contrast: SE=0.12; t=14.16; p<0,01). The difference in this latter characteristic likens Costa Rican youth to collectivist countries. The historical background of Costa Rica – as well as sample the sample characteristics of being an urban sample – provides a starting point of interpreting results. The fact that it is an urban sample means that the traditional value of in-group interdependence has loosened and with it the values governing socialization procedures have changed, individual agency and initiatives more valued. This in part may also be attributed to the long-standing public education system – which is by far the most effective if we compare PRC, Vietnam and Costa Rica in this respect. Public education endorses values seen important by the strata of society in power (descendents of Spanish origin and mestizo) – which would mean that value of competitiveness and individual initiation are high. Via this higher school-based literacy – the effects of which are pronounced in an urban sample - which influences and reorients familiar transmission of education towards an independently oriented path (as opposed to an interdependent one) (Rosabal-Coto, 2004).

4. WITHIN COUNTRY CONTRASTS AND COMPARISONS

In an attempt to formulate an overall picture of age-related changes we have contrasted the age group of 9 and 15 years olds previously and found that two dimensions significantly affected – practical-imaginative and organized flexible. On the basis of a more refined country-by-country analysis (ANOVA)

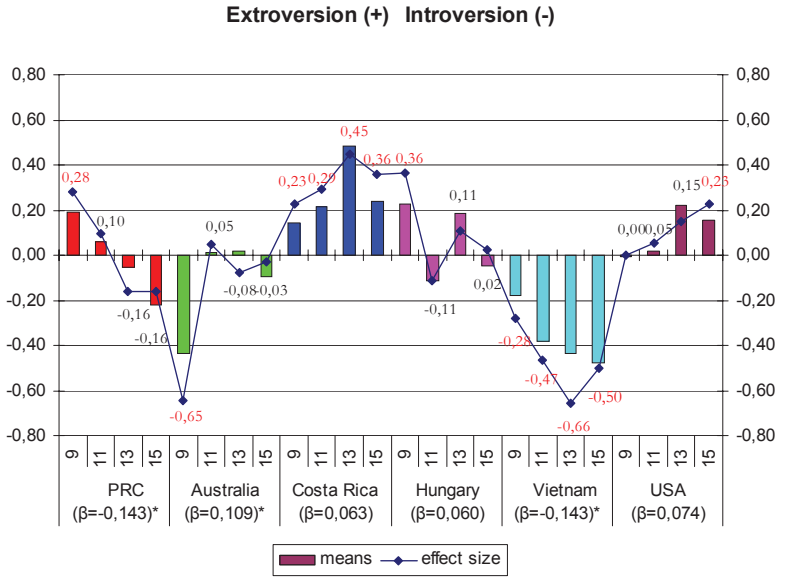
Extraversion-introversion	age	means	*d* effect size	
PRC	9 years*	0,19	0,28**	small
B=-0,07	11 years	0,28	0,10	
SE B= 0,02	13 years	0,10	-0,16	
β=-0,143*	15 years	-0,16	-0,16	

Australia	9 years*	-0,16	-0,65**	medium
B=0,05	11 years	-0,65	0,05	
SE B=0,02	13 years	0,05	-0,08	
β=0,10*	15 years	-0,08	-0,03	
Costa Rica	9 years*	-0,03	0,23**	small
B=0,03	11 years*	0,23	0,29**	small
SE B=0,02	13 years*	0,29	0,45**	small
β=0,063	15 years*	0,45	0,36**	small
Hungary	9 years*	0,36	0,36**	small
B=-0,03	11 years	0,36	-0,11	
SE B=0,02	13 years	-0,11	0,11	
β=0,060	15 years	0,11	0,02	
Vietnam	9 years*	0,02	-0,28**	small
B=-0,05	11 years*	-0,28	-0,47**	small
SE B=0,02	13 years*	-0,47	-0,66**	medium
β=-0,143*	15 years*	-0,66	-0,50**	medium
USA	9 years	-0,50	0,00	
B=0,04	11 years	0,00	0,05	
SE B=0,02	13 years	0,05	0,15	
β=0,074	15 years*	0,15	0,23**	small

(* age means by subgroups according to ANOVA contrasts and regression β significantly differ from each other within the country on a $p<0.05$ level; ** effect size is significant on a $p<0.05$ level)

Table VI-4. Significance of within age-cohort comparisons for the dimension of extraversion-introversion among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

contrasting 9 and 15 year-olds within a country (Table A-19 in the Appendix) show a decisive changes on all four dimensions – but the increase in preference fora flexible and imaginative style are apparent age-related elements. We may also state that proactive interaction increases with age, but this also assumes that the person has within his hands more power to express his choices. It also means that socializing procedures – as important environmental factors – also permit and enhance this individuation process. The practical-imaginative dimension refers to the type of information a person prefers to process or processes with ease. Cognitive development of the individual will determine the limits within which a person is able to function (Vigotszkij, 2000; Piaget, & Inhelder, 1999; Cole, 2005).



(* designates the contrast of means and regression β is significant on $p<0.05$ level; red numbers designate significant [$d>0.2$] effect size)

Figure VI-4. Significance of within age-cohort comparisons for the dimension of extraversion-introversion among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

Taking different dimensions into account we can see significant age-related changes occurring in the extraversion-introversion dimension in PRC, Hungary and Vietnam – in all three countries there is a change and extraversion turns into introversion (with the one exception of Vietnam, where introversion becomes even more extreme) (see Table V-4 and FigureV-2). The case of Australia runs against apparent trends, namely there is significant increase towards extraversion with age. Regression analysis of data by age (Table A-20 – A-22 in the Appendix) shows that there are two opposing tendencies in this dimension. In PRC and Vietnam the marked increase in introversion is significant. In the case of PRC this is attributable in a significant manner to and increase of boys' introversion, while in Vietnam this increase is mainly attributable to changes in girls' preferences towards an increasing

preference for introversion. In the case of Australia the significant changes towards extraversion is mainly due to significant increase of preference toward extraversion in the case of girls. The timing of significant changes may be attributed to developmental factors, when reaching puberty social life of youngsters is rearranged, expectations of conformity are more pronounced – in most cases this is reflected in the organizational styles of formal schooling. In primary school (until age 11 years in the given instances) school-classes are assigned to one teacher, thus the person of the teacher is unchanged and constant through these years. Teacher-student relationship can be perceived much more easily as an extension of the parent-child relationship. This is much more so in the case of cultures where the value of harmony and authority and teachers are automatically drawn into this process (KItayama, 2002; Kitayama et al., 1997). Specific gender related changes occurring around age 13 with a pronounced increase in an absolute and relative preference for extraversion is attributable to the way girls' try and adapt in their social environment to the new roles they hold. Girls' interactions with peers tend to centre on social-emotional issues – instead of object – and this new role increases social interaction in a transient manner – especially in cultures where gender role typing is markedly prevalent. This also explains – in part the relative absence of this in Vietnam, where differentiation based on gender is not as characteristic as in other countries as reflected my the relative femininity of the culture according to Hofstede (1994).

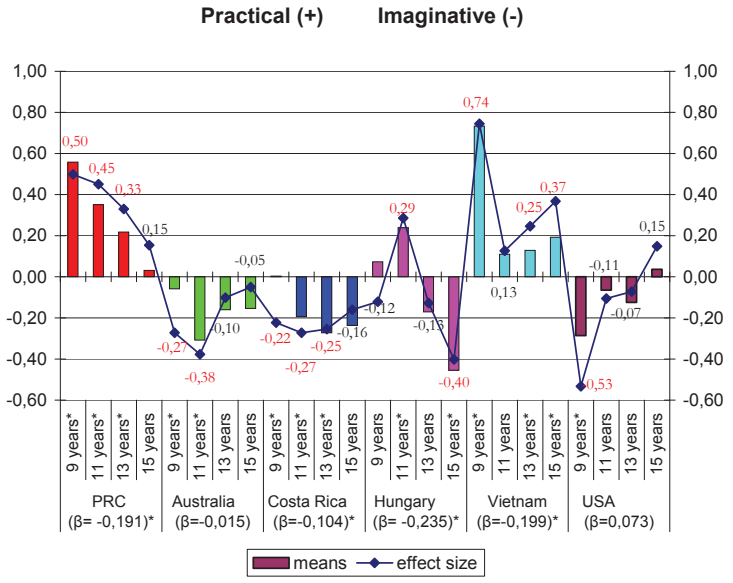
Practical-imaginative		means	*d* effect size	
PRC	9 years*	0,56	0,50**	medium
B= -0,09	11 years*	0,35	0,45**	small
SE B= 0,02	13 years*	0,22	0,33**	small
β= -0,191*	15 years	0,03	0,15	
Australia	9 years*	-0,06	-0,27**	small
B= -0,01	11 years*	-0,31	-0,38**	small
SE B= 0,03	13 years	-0,16	-0,10	
β=-0,015	15 years	-0,15	-0,05	
Costa Rica	9 years*	0,00	-0,22**	small
B= -0,04	11 years*	-0,19	-0,27**	small
SE B= 0,02	13 years*	-0,27	-0,25**	small

β= -0,104*	15 years	-0,24	-0,16	
Hungary	9 years	0,07	-0,12	
B= SE B= -0,10	11 years*	0,24	0,29**	small
0,02	13 years	-0,17	-0,13	
β= -0,235*	15 years*	-0,45	-0,40**	small
Vietnam	9 years*	0,73	0,74**	medium
B= -0,08	11 years	0,11	0,13	
SE B= 0,02	13 years*	0,13	0,25**	small
β= -0,199*	15 years*	0,19	0,37**	small
USA	9 years*	-0,29	-0,53**	medium
B= 0,04	11 years	-0,06	-0,11	
SE B= 0,02	13 years	-0,12	-0,07	
β= 0,073	15 years	0,04	0,15	

(* age means by subgroups according to ANOVA contrasts and regression β significantly differ from each other within the country on a $p<0.05$ level; ** effect size is significant on a $p<0.05$ level)

Table VI-5. Significance of within age-cohort comparisons for the dimension of practical-imaginative among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

In the practical-imaginative dimension (see Table VI-5 and Figure VI-5.) the observable trend is for practical orientation to decrease with the increase of age in either a relative or absolute sense. In PRC and Vietnam there is a significant decrease in practical orientation, while in Hungary the significant change concerns the practical preference of 9-year-olds turning to an imaginative preference by age 15. While in Costa Rica the change is from a relative neutral stance toward an imaginative preference. In summary we may state that the general direction of change is from practical preference towards a preference of a more imaginative one. This difference is gender related in Vietnam, where this change is mainly reflected by an increase for a less practical style in case of boys only. In PRC and



(* designates the contrast of means and regression β is significant on p<0.05 level; red numbers designate significant [d>0.2] effect size)

Figure VI-5. Significance of within age-cohort comparisons for the dimension of practical-imaginative among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

Vietnam we may envision that a more utilitarian value of children being dominant, children are expected to participate actively in the every day life and sustenance of the family by helping parents. The decrease in practical orientation can also be viewed that although age increased so do school-related obligations. In both cultures family-school relationships are affected by the definition of school as a part of the in-group, thus families would tend to see meeting school obligations as important. Thus it can also be ascribed to the effect schooling – as a abstract concepts are more often dealt with in this setting of the person's ecological system –irrespective of other elements. The effect of schooling may be more pronounced in countries where the

curriculum itself is more theory driven – or where other sources of information are less easily available in the environment. This latter speculation would hold true for the country-mix that is characterized significantly by this change: the economically less developed countries and Hungary.

In Hungary, the significant change from practical to imaginative style preference is also interpretable as a reaction to school-related issues. This dimension relates to how applicable and useful knowledge obtained through formal schooling is seen. the turning-point of preferences occurs at an age, where school-subjects tend to emphasize facts and details to a great extent, thus a preference for an imaginative style may be a backlash reaction to this. Aside from these significant changes corroborated by significant regression analysis data, contrast analysis shows that in countries where a predominant preference for an imaginative style is apparent at age nine – it decreases in a non-significant manner (e.g. Australia and US). This would suggest that the independent family model (Kagitcibasi, 1982, 1996) placing a psychological value on children would tend to nurture imaginative styles in early socialization, while socializing towards self-reliance and independence would also mean a gradual enforcement of responsibility where practical outcomes of actions have to be taken into account increasingly – which surfaces as a relative decrease in preference for an imaginative style.

When examining the effect of different factors in the discussion of results of contrast-tests (VI.2), we came to the conclusion that the dimension of thinking-feeling is significantly influenced by gender, while in the case of other dimensions it has a significant effect only in some of the countries. The thinking-feeling dimension (Table VI.6 and Figure VI-6.) is the least sensitive to age-related changes when we look at regression analysis (for details see Table A-20 in the Appendix). The only country where these appear is Hungary, where a significant

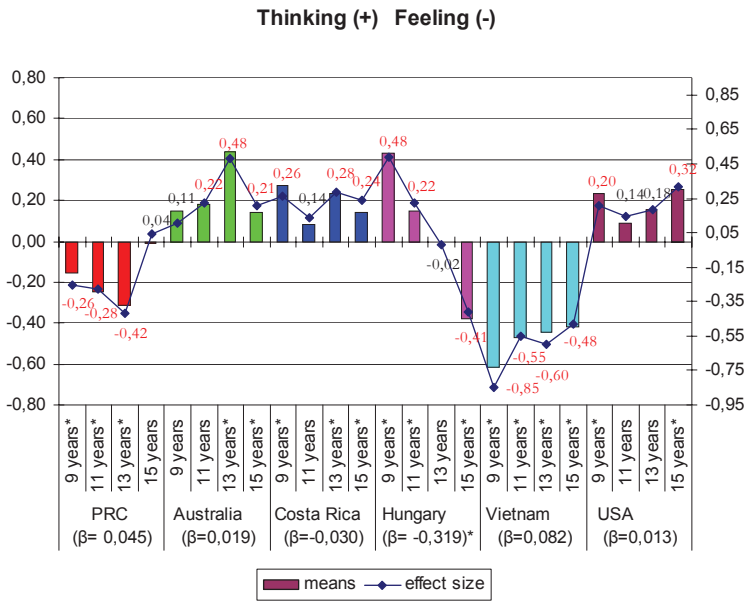
Thinking-feeling		means	*d* effect size	
PRC	9 years*	-0,16	-0,26**	small
B= 0,02	11 years*	-0,25	-0,28**	small
SE B= 0,02	13 years*	-0,31	-0,42**	small

β= 0,045	15 years	-0,01	0,04	
Australia	9 years	0,15	0,11	
B= 0,01	11 years	0,18	0,22**	small
SE B= 0,03	13 years*	0,44	0,48**	small
β=0,019	15 years*	0,14	0,21**	small
Costa Rica	9 years*	0,27	0,26**	small
B= -0,01	11 years	0,09	0,14	
SE B= 0,02	13 years*	0,23	0,28**	small
β=-0,030	15 years*	0,14	0,24**	small
Hungary	9 years*	0,43	0,48**	small
B= -0,13	11 years*	0,15	0,22	
SE B= 0,02	13 years	0,00	-0,02	
β= -0,319*	15 years*	-0,38	-0,41**	small
Vietnam	9 years*	-0,62	-0,85**	medium
B= 0,03	11 years*	-0,47	-0,55**	medium
SE B= 0,02	13 years*	-0,44	-0,60**	medium
β=0,082	15 years*	-0,42	-0,48	
USA	9 years*	0,23	0,20**	small
B= 0,01	11 years	0,09	0,14	
SE B= 0,03	13 years	0,15	0,18	
β=0,013	15 years*	0,25	0,32**	small

(* age means by subgroups according to ANOVA contrasts and regression β significantly differ from each other within the country on a $p<0.05$ level; ** effect size is significant on a $p<0.05$ level)

Table VI-6. Significance of within age-cohort comparisons for the dimension of thinking-feeling among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

decrease in the preference for the thinking style occurs between the ages of 9 and 15 years of age. In the case of Hungary this could be interpreted as a developmental element. In Hungary this would be a time when the majority of students have just lived through a change of schools and a change of peer-group –



(* designates the contrast of means and regression β is significant on p<0.05 level; red numbers designate significant [d>0.2] effect size)

Figure VI-6. Significance of within age-cohort comparisons for the dimension of thinking-feeling among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

which added to the onset of adolescence make for feelings coming into the forefront of attention. Albeit I would presume that this is a transitory time and would the study contained older age-groups, as well it would decrease. (Another unpublished manuscript contains the outcome of a second study on 1200 students for a standardizing sample which confirms this explanation, as in that study feeling preference decreases significantly in the age-cohort of 17 year-olds .) Although there are no country level significant changes in Costa Rica, there is a significant although an opposing direction of change as a function of gender. While preference for a thinking style significantly increases in males, in females a significant growth in

preference for a feeling style occurs. We could expect such differential emergence of preferences to occur in all societies where gender-related expectations are differentiated and pronounced. The reason why this only emerges so explicitly in Costa Rica may be attributable to the value of honour in the society where the family is the most salient in-group, and men are expected to defend the honour of the family under all circumstances (Rosabel-Coto, 2004).

While outcomes on the dimension of thinking-feeling are mainly a function of gender , the organized-flexible dimension (Table VI.-7 and Figure VI.-7) proves to be the most sensitive to age: there are significant age-related changes in preferences in all countries, the characteristic significant change being the initial organized preference of 9 year-olds turning into a preference for flexibility by age 15. The age-related change is so pervasive that it emerges in all countries, and in the case of both genders. There is one exception to this pervasive pattern, namely Vietnam, where there is a significant decrease in the preference for organization, but this is only a relative growth of flexibility preference as the mean remains in the organized half of the dimension. This result suggests the power of environmental factors: if during socialization the traditional ways are overemphasized it may also mean a construction of a value-system in which changes themselves and initiating them are not of importance. Vietnam does not conform to the overall patterning of results in the sense, that there is a gender-related difference in this dimension: the increase for a more flexible preference in not significant for females.

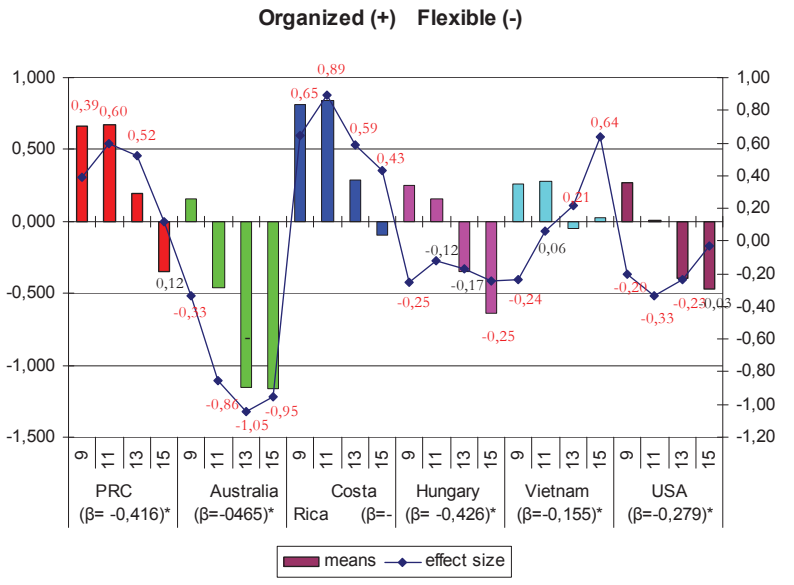
Organized-flexible		means	*d* effect size	
PRC	9 years*	0,666	0,39**	small
B= -0,18	11 years*	0,675	0,60**	medium
SE B= 0,02	13 years*	0,198	0,52**	medium
β= -0,416*	15 years	-0,347	0,12	
Australia	9 years*	0,161	-0,33**	small
B= -0,23	11 years*	-0,461	-0,86**	large
SE B= 0,02	13 years*	-1,157	-1,05**	large
β=-0465*	15 years*	-1,167	-0,95**	large
Costa Rica	9 years*	0,811	0,65**	medium

B= -0,16	11 years*	0,838	0,89**	large
SE B= 0,02	13 years*	0,285	0,59**	medium
β=-0,378*	15 years*	-0,094	0,43**	small
Hungary	9 years*	0,247	-0,25**	small
B= -0,16	11 years	0,154	-0,12	
SE B= 0,02	13 years	-0,347	-0,17	
β= -0,426*	15 years*	-0,639	-0,25**	small
Vietnam	9 years*	0,260	-0,24**	small
B= -0,05	11 years	0,280	0,06	
SE B= 0,02	13 years*	-0,044	0,21**	small
β=-0,155*	15 years*	0,029	0,64**	medium
USA	9 years	0,266	-0,20**	small
B= -0,14	11 years*	0,007	-0,33**	small
SE B= 0,02	13 years*	-0,395	-0,23**	small
β=-0,279*	15 years	-0,472	-0,03	

(* age means by subgroups according to ANOVA contrasts and regression β significantly differ from each other within the country on a $p<0.05$ level; ** effect size is significant on a $p<0.05$ level)

Table VI-7. Significance of within age-cohort comparisons for the dimension of organized - flexible among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

The major increase in preference in flexibility and significant decrease in a preference for an organized style occurs between the age cohorts of 11 and 13 years of age, albeit the effect size is only significant in five of the six countries. Changes initiated by cognitive development and increase in differentiated self-construal are underpinned by environmental changes and increased expectations especially in formal schooling. In all countries where the change is significant there is a change in schools. Middle schools are more achievement oriented, schedules are less predictable typically teaching is more diverse according to the field of science – students have to adapt to varying expectations of different teachers. This – as an environmental variable – underscores developmental changes to produce this marked change.



(* designates the contrast of means and regression β is significant on p<0.05 level; red numbers designate significant [d>0.2] effect size)

Figure VI-7. Significance of within age-cohort comparisons for the dimension of organized-flexible among countries: ANOVA contrast comparisons and Cohen's effect size with ANOVA regression beta displayed

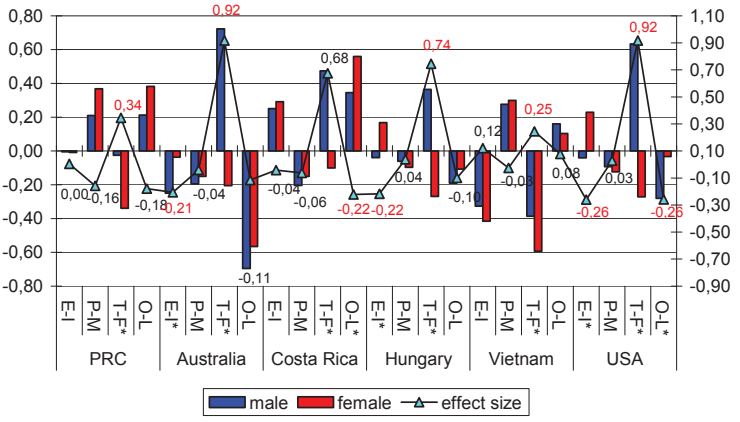
In the within-county comparisons regarding the effects of gender (Table VI-8. and Figure VI-8.) we can say that two dimensions are not only age, but gender also influence organized-flexible preferences in the case of Costa Rica and US. In both cases girls are characterized by a significantly higher preference for an organized style, while boys by a preference for a flexible style – although this is relative as in the case of Costa Rica both genders are on the organized side of the dimension, while in the US both genders are on the flexible side.

		means		*r*	Cohen's
		male	female	effect size	*d*
PRC	E-I	-0,01	-0,01	0,00	
	P-M	0,21	0,37	-0,16	
	T-F*	-0,03	-0,34	0,34**	small
	O-L	0,21	0,38	-0,18	
Australia	E-I*	-0,25	-0,04	-0,21**	small
	P-M	-0,19	-0,15	-0,04	
	T-F*	0,72	-0,21	0,92**	large
	O-L	-0,70	-0,57	-0,11	
Costa Rica	E-I	0,25	0,29	-0,04	
	P-M	-0,20	-0,15	-0,06	
	T-F*	0,47	-0,10	0,68**	medium
	O-L*	0,34	0,56	-0,22**	small
Hungary	E-I*	-0,04	0,17	-0,22**	small
	P-M	-0,06	-0,10	0,04	
	T-F*	0,36	-0,27	0,74**	medium
	O-L	-0,19	-0,11	-0,10	
Vietnam	E-I	-0,33	-0,42	0,12	
	P-M	0,28	0,30	-0,03	
	T-F*	-0,39	-0,59	0,25**	small
	O-L	0,16	0,10	0,08	
USA	E-I*	-0,04	0,23	-0,26**	small
	P-M	-0,09	-0,12	0,03	
	T-F*	0,63	-0,27	0,92**	large
	O-L*	-0,28	-0,03	-0,26**	small

(* gender means according to ANOVA contrasts significantly differ from each other within the country on a $p<0.05$ level; ** effect size is significant)

Table VI-8. Significance of between gender ANOVA contrast comparisons and Cohen's effect size

The organised flexible dimension typically differentiates between economically developed and non-developed countries – which in this case are in agreement with the collectivist-individualist dichotomy, as well. A characteristic that overarches and supersedes all others is the fact that males – as compared to females i their own country – are relatively more flexible, while females more organised. If we want to speculate abut the reasons behind this we may well postulate that the type of work typically engaged in will have an influence on preferences that are trained for throughout formal and informal socialization. A possible hypothesis is that girls tend to be drawn into housework on a more regular basis and/or a much earlier age – and this is typically a multi-tasking activity. Multi-tasking also means that one has to rehearse simple activities until



E-I: extraversion-introversion; P-M: practical imaginative; T-F: thinking-feeling; O-L: organized – flexible
(* designates the contrast of means is significant on $p<0.05$ level; red numbers designate significant [$r>0.2$] effect size)

Figure VI-8. Significance of between gender ANOVA contrast comparisons and Cohen's effect size

perfect automaticity is reached – which necessitates a more organised space and time-handling, as well. The relative gain of girls is reproduced in this difference on the organized-flexible dimension.

In the dimension of thinking-feeling in outcomes in all countries are significantly influenced by gender as would be predicted by stereotyped views on gender, namely boys are more thinking oriented, while girls are characterized by a significantly higher preference for a feeling style. In case of PRC and Vietnam this is true in its relative sense, as both genders are on the feeling side of the numeric scale, only males have a lower preference for a feeling style (i.e. a relative preference for thinking), while in the case of girls the preference for a feeling style is markedly present. This fact sets these two countries apart from all the others. The fact that cooperation is so important in these cultures may affect this difference. Alternatively

we may think of these countries along the masculine-feminine dimensions and state that these cultures do not assign to typical male values such as rivalry, but would tend to prefer other forms of competition – competition with self for the sake of self-betterment. This is a value that could me utilized in such political ideologies as socialism, as well – and we must not forget that these countries assign or assigned to such ideologies. An added factor is that these ideologies also stress gender equality – sometimes to the point of irrationality.

5. AN IDIOGRAPHIC APPROACH

In the above sections we dealt with the results on a nomothetic basis, putting different dimensions in the centre of attention: preferences, values, cultures, socialization styles. Another way to approach this question would be to employ an idiographic approach. In utilizing an idiographic approach the highest value characteristic of the person was chosen as a basis for determining group membership, and Chi-square statistics were performed. The procedure also implies that a low count on one side of the dimension does not necessarily mean a high frequency on the polar opposite within the same dimension. The nature of the procedure will also imply that a characteristic within a country is the strongest if a low-count on one side of the dimension goes together with a high count on the opposite side of the same dimension, implying chiral symmetry. This would mean that the given dimension is seen as an important element in defining and characterizing the self – most probably this dimension would emerge as the most salient when foreigners enter and meet with the culture. A relatively smaller impact of the dimension is expected when this mirror imaging is not characteristic regarding cell-count, i.e. only one end of the bipolar dimension is accepted or rejected. To reformulate the statement we could say that chiral symmetry would imply strong and consistent socialization effects, most probably fuelled by value orientations – as reflected by the culture of the nation-sample, while preferences not characterized by this symmetry can be thought of as a result of differences at an individual-level and

possibly sample-characteristics, or alternatively – influenced by value-systems under change.

Looking at significant results by country (see Table A-34. in the Appendix) youth in PRC is characterized by a strong preference (as measured by the frequency of the most extreme preference) for practical and organised style, and a spurn of imaginative and flexible styles, accompanied by a one-sided dismissal of a thinking style – which tends to suggest that the feeling style preference that emerged in the nomothetic approach is only a relative preference for a feeling style. In Australia the most evident characteristic is the organized-flexible dimension - with a frequent preference for a flexible style is paired with a rejection of an organized style, and a relative rejection of extraversion. This would lead us to think that a more low-key interaction is preferred in social situations – which would in fact be more conducive for a more sensitive approach to social differences in a country of many cultures. The extreme preference for flexibility also underscores this assumption as flexibility also relates to flexibility of the framework of mind – which facilitates adaptability in a multicultural environment such as Australia. Costa Rica is characterized by a high frequency preference for extraversion and organised style with a rejection of introversion and flexible styles. A rejection of practical style is present – which also means that the preference for an imaginative style is only relative. This sheds light on cultural elements that are present in a number of literatures, where the most often cited practical work is farming – which is very low prestige work in Costa Rica and barely provides for sustaining a family. Thus the preference for an imaginative style previously cited may well mean on the individual level a rejection for a low prestige-work in reality. At the individual level this is a well-founded reaction as education is available at no cost until the end of compulsory schooling – and in Central- and Latin America Costa Rica is one of the countries where youth have a realistic chance of entering higher education. In Hungary two weak tendencies emerge: a significantly higher frequency in the preference for extraversion and a significantly lower frequency of organised preference. The fact that a preference for extraversion appears unilaterally, means that there is not as decisive a characteristic as it is in

Costa Rica, but likens the major characteristics. The unilateral rejection of organised preference for indicates that there is no real preference for flexibility – it is just a relative absence of numbers preferring an organised style.... which would liken Hungary to some extent to countries where collectivist values predominate. In Vietnam respondents significantly differ in frequencies on both positive and negative sides of all dimensions, thus the most marked statements can be made regarding this country. In summary we may characterize preferences as: introvert-practical-feeling-organized being endorsed by the majority of students. This relative unanimity suggests that the tightness of the culture has developed a highly consistent value-system with relatively small individual variation influencing socialization practices – or to complete the logic the sample is very homogenous. In the US a preference for an imaginative style emerges as significant – although unilateral giving the impression that it is not necessarily a primary characteristic, as opposed to the thinking-feeling dimension, where a preference for a thinking style is emphasized and a feeling style rejected. This means a detached – and independent way of construing the social and object world is preferred, where cost-benefit analysis a consistently pursued – which may be interpreted as a result of socialization processes geared towards personal achievement, independence and self-reliance defined as decision-making based on personal choice with little consideration of others in the in-group. A relative rejection of organised preference also emerges, which can be interpreted as a rejection of outside regulative forces that would impede expression of individual needs and incapacitate the individuals in following their own action plans and initiatives.

Examining primary preferences by country*age aggregate variable (see Table A-35. and A-36. in Appendix) brings similar results as examined in the nomothetic approach discussed before in relation to contrast tests. Idiographic data reaffirms the developmental hypothesis (hypothesis no. 8.) that the importance of the organised-flexible dimension increases as in the age-cohort of 15 year-olds this dimension becomes the most salient in all nation samples. In the majority of countries preferences on this dimension emerge as chiral preference with the adoption of flexibility and the rejection of organisation (PRC, Australia, Costa Rica and Hungary)

in the US this dimension only surfaces in a negative fashion. Youth in the US at age 15 characteristically describe themselves as persons who are not characterised by a preference for an organised style. The only country where the dimension of organised-flexible is not of importance is Vietnam, where introversion as a salient characteristic emerges.

Gender related differences become quite apparent in the idiographic approach (see Table A-37. and A-38. in Appendix) if we look at the results of Chi-square country*gender aggregate variable. The only country where there are no gender-related differences is Vietnam – which tends to confirm that in essence socialization forces tend to offset each other. Indeed there are differences in socializing for gender-roles and genders play differential roles in socialization (mothers are prime caretakers of children), but at the same time Vietnam is characterized on the feminine end of the masculinity scale according to Hofstede (1994), and we may infer that Vietnam is a more openly nurturing society where differentiation between genders is not pronounced (also indoctrinated by communism) and males and females are treated more equally in social relationship than in most societies, which does not preclude that there are differences between genders in relation to specific roles. A good example is provided by Ryndstrøm (2001) who describes a nursery-school day of children. Children are instructed to engage in fantasy play: girls have to play the role of a nurse and boys that of construction workers... The nursery-school teacher explicitly reinforces correct role-play and sanctions those who do not – while the correct fulfilment of roles are emphasized – no distinction between value of roles is made. Thus we may see that gender-typing does occur, but value is attached to working itself, not the type of work performed – although it implicitly carrying the message that only work done outside the home carries value.

Over and above this single characteristic, there is a uniform significant tendency in all countries for females to reject and for males prefer a thinking style. This significant difference between genders is strengthened by the fact that on this dimension chiral symmetry is present in case of both genders (i.e. girls more frequently prefer a feeling style while boys reject it, while boys show a preference for

thinking style, while girls reject it) in all above mentioned countries except China, where this occurs unilaterally, i.e. boys prefer a thinking style, while girls reject it. Vietnam and China are the two countries where gender-related preferences do not conform to the majority of the cross-cultural sample. In three countries: USA, Costa Rica and China significant gender related preference difference occur regarding the organized style: girls more frequently choose this preference and boys more frequently reject it. All the above mentioned frequency differences are quite expressed as male and female preferences and rejections mirror images of each other. As there is no chiral symmetry present this characteristic may not be as pervasive between genders as preferences expressed on the thinking-feeling dimension.

On the whole we can say the employing an idiographic approach confirmed significant differences in the patterning of preferences and brought them "to life". The often voiced fear and advice to be heeded that country level depictions will not be reflected in individual choices my be true, but the line of thought, culture as a broad context of socialization processes, that influences socialization goals, child-rearing practices adopted, and parental beliefs which in turn will shape the developing individual. When entering formal schooling socialization forces impinging on the individual will reflect the value system endorsed by society at large – as influenced by current educational policies drawn up by ruling political forces (reflecting the value of children at country-level) which materialize in the degree of free-choice provided to youngsters within school, classroom sizes, content of adopted national curriculum, adopted and endorsed educational methods and practices, laws on compulsory education, etc. which will serve to further and reinforce parental practices or will undermine parental efforts. All forces impinging on the developing individual will evoke reactions from the child as a function of temperamental qualities and personality characteristics – which the modify socialization processes directed towards and impinge on the individual.

VII. SUMMARY AND CONCLUSIONS

One of the main goals of this research was to shed light on the interplay of personality traits and cultural characteristics as mediated by socialization practices of the family and formal schooling, and vica versa. In the process another collateral aim was to verify whether the Student Style Questionnaire is a reliable tool in a comparative research involving samples from six different countries (People's Republic of China [PRC], Costa Rica, Vietnam, USA, Australia and Hungary) whether it maintains its factor-structure ensuring meaningful comparisons of results.

In this study youth between the ages of 9 and 15 years of ages were compared on preferences for leisure-time activities and personality characteristics as reflected on preferences expressed on the Student Styles Questionnaire (Oakland at al., 1996) as a function of characteristics of culture, gender and age.

Conceptualising socialization processes

Results of comparisons and contrasts performed between countries by country, age and gender variables and the aggregate variables of the aforementioned variables emphasize the utility of a conceptual model formulated, based on the work of Bronfenbrenner (1990), the eco-cultural model (Segall, 1990), the concept of developmental micro-niche (Super and Harkness, 1986) and related ethnotheories (Harkness and Super, 2006), and the family models derived from the value of children surveys (Kagitcibasi, 1996). According to this conceptual model describing how environmental and ecological forces help shape culture by rendering some solutions to everyday problems and challenges more useful than others, attaching value to them, is transmitted from one generation to the next via socialization processes. Socialization procedures adopted will be affected by characteristics of the micro-niche, such as values of the family members, members of the family and their involvement with the child, parental beliefs regarding child-development and socialization and the socio-economic characteristics of the family. Ecological and economical factors also influence the value of the child in the family – in turn influencing the socialization process and determine characteristic family models

(Kagitcibasi, 1996). The *family model of interdependence* is characteristic under circumstances of economic hardships when children are expected to work from early on within the family or outside performing some menial work and children are expected to contribute to the family economy from relatively early age. The work of children is taken for granted – and parents motivate children to take up their place in the labour-market. As parents care for children when they are young, adult children are expected to reciprocate this and be providers for their elderly parents. As having a number of children of a source of old-age security – fertility is highest among the economically disadvantaged. Socialization processes tend to emphasize conformity, observing rules and traditions – ingraining dependence in the process of socialization. The *family model of independence* prevails in affluent societies and/or urban, middle-class families. In this context having children is no longer a form of investment in future security. Children mainly fulfil psychological needs of parents, thus benefits of having children are quickly outweighed by costs. Independence and autonomy emerge as basic values in the socializing process; child-rearing practices are adjusted accordingly to foster autonomy, initiative, volition and independence. Parenting styles are characterized by high levels of permissiveness, reinforcing individual initiatives, providing for volition, autonomous decisions prevail and self-reliance is the norm. In accommodating to changing economic environments family models change and a third type emerges – mainly in countries where originally closely knit families are characteristic – the *family model of psychological interdependence*. This model is a mixture of the previous two. Although there is no economic pressure on the offspring to contribute to family economy and there is a decreased material interdependence as old-age pension becomes available for parents, the goal of socialization is not separated independence, but rather – interdependence, which is now only of psychological and not financial/material in nature. Preferred values and parenting styles adapt accordingly and as the autonomy of the child is not seen as a threat to family livelihood, personal agency is emphasized and so are its resulting responsibility for actions and outcomes. At the same time parental control is still a valued element and is seen as necessary to

regulate psychological interdependence, providing order and ensuring the process of autonomous-relational self-construal. In this model a relational collectivism is maintained – as opposed to normative collectivism where the individual is subordinate to the group and high power distance prevails (as in the family model of interdependence).

Characteristics of culture

In identifying culture characteristics that are likely impact socialization processes four, later adding a fifth dimension was identified (Hofstede, 1994). *Power distance* is often reflected in the hierarchical nature of group structure, the respect that is expected to be shown by youth towards elders, by the belief in society that inequalities among people should be minimised or to be expected and deemed desirable. *Individualism/Collectivism* is defined as the extent to which the interest of the group is unquestionably more important than the individual's, to the extent which persons are assigned to the membership of a well-defined in-group, or there is personal choice involved with groups being more transient. *Masculinity/Femininity* refers to what extent social gender roles are distinct, to the extent achievement versus relationships are seen as important values. *Uncertainty avoidance* reflects whether persons feel threatened by unknown and uncertain situations or not. This dimension is also influenced by the extent to which predominant belief-systems ascribe to one absolute truth versus relativism. The later added fifth dimension *short- vs. long-term orientation* which is related to qualities of persistence, ordering relationships by status and observing this order, thrift, observing traditions.

Personality and culture

Eysenck viewed personality as growing out of genetic inheritance and thought of individual differences as very important. He thought that the idiographic approach of trait-level analysis utilized by Cattell is too low-level an approach, and aimed at analyzing higher-order aggregates (inter-correlations of traits) that would be empirically more robust. As an outcome of this analysis Eysenck proposed three factors, extraversion, psychoticism, and neuroticism (Carver & Scheier, 1998). The

traits that make up extraversion are sociable, lively, active, assertive, sensation-seeking, carefree, dominant, surgent, and venturesome. The traits that make up psychoticism are aggressive, cold, egocentric, impersonal, impulsive, antisocial, unempathetic, creative, and tough-minded. The traits that make up neuroticism are anxious, depressed, guilt feelings, low self-esteem, tense, irrational, shy, moody, and emotional. He also combined these to arrive at two bipolar dimensions: extraversion-introversion and emotional stability and fit the typology of Hippocrates to the four combinations of the two bipolar dimensions (extraversion – emotional stability sanguine; introversion – emotional stability phlegmatic; extraversion – emotional instability choleric; introversion – emotional instability melancholic).

On reviewing factor-analytic methods Norman (1963) noticed that two of the factors are none other than the extraversion and neuroticism factor identified by Eysenck. It was at that time that McCrae and Costa added a fifth factor "openness to experience", the factors were names and the five-factor model – later called the "Big-Five" was born: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness (McCrae & Costa, 1997). Based on their own and relevant research the authors concluded that developmental timing is largely under genetic control, environmental experiences (except for extreme influences e.g. trauma) have little effect (McCrae et al., 2000; McCrae, 2002; McCrae et al., 2002). Based on the above McCrae and his colleagues proposed that the traits measured by the NEO-PI - R are in fact temperaments. The question still remained: are the constructs represented by the five factors meaningful at a cultural level? Factor scores on a multinational sample were calculated and significant correlations with all four of Hofstede's culture dimensions (Hofstede and McCrae, 2004) were verified. This correlation would suggest all or some of the following: a) the distribution of genetically influenced personality factors systematically differ among national populations, b) children growing up under the influence of a given culture acquire common personality characteristics during their development, and c) national cultures effect the way people provide responses in tests.

Following this line of thought the Students' Style Questionnaire (Oakland et al., 1996) usable for children and youth was utilized in a research consisting of samples from six different countries (People's Republic of China [PRC], Costa Rica, Vietnam, USA, Australia and Hungary). Each country sample consists of roughly 400 respondents with a hundred respondents in each of the four age-groups (9, 11, 13 and 15 years of age), resulting in a total of After reducing the questionnaire to 59 items that significantly load on the four hypothesized dimensions of extraversion-introversion, practical-imaginative, thinking-feeling and organized-flexible, confirmatory factor-analysis was performed by country confirming the factor-structure for all six nation-samples involved in the study. Leisure-time activity preferences correlate with the factors and validate their content.

Before we turn to the summary of results some limitations to generalizing results must be mentioned. One is the sampling procedure. In order to be sensitive to possible nation/country differentiation issues samples tend to come from one specific region within a country thereby increasing the homogeneity (urban middle and lower-middle class) – but this is at the expense of not being representative regarding geographical distribution. Relative representativity was ensured by recruiting respondents from public schools. A further limitation was posed by the number of tests and questions that could be administered. This also means that individual and country level statements cannot always be clearly carried through to the end.

To enhance overview we will follow the ordering of hypotheses in summarizing the results.

1. Based on Kagitcibasi's work (1996) on family models identifying the prevalence of interrelated family models in collectivist cultures we hypothesize that the prevalent family model serving as a mediator of cultural values carries over to the individual level. In an interrelated family youngsters are expected to be aware of the emotional undertones of a social situation early-on and thus their early socialization would emphasize this factor thereby youngsters living in collectivist cultures (PRC, Vietnam and Costa Rica) will more often show preference for the "feeling" dimension,

while in countries which were grouped together on the basis of literature data (Hofstede, 1994) under the heading of individualist countries will show thinking preference in comparison as relative to each other.

In analyzing results we utilized a nomothetic and idiographic approach in order to be able to pinpoint the most salient aspect of characteristics.

In case of countries assigned to the individualist group the hypothesis is verified, as well as preferences of youth in PRC and Vietnam conforming to the expectations of the hypothesis. Preferences of youth in Costa Rica stand apart with their preference for a thinking style from other countries characterizes by collectivist cultures. This result may be due to economic factors – if we accept that it influences family models, which in turn influence socializing procedures. The relative economic affluence of Costa Rica as compared to the other two countries assigned to the collectivist group is verified. On the other hand preferences on this dimension is also partially influenced by gender-role socialization. Thus cultural characteristics influencing gender socialization may also influence preferences expressed. If the latter holds true culture characteristics relating to how achievement versus relationships are valued in a society (masculine/feminine culture). In this respect Costa Rica stands apart from the other two countries assigned to the group, as formal schooling in Costa Rica is long standing and net enrolment rates have been high for many decades, and if contrasted with the other two countries students have a realistic chance at entering higher education that is seen as a guarantee of better-paying jobs. As a result achievement – which in the age-group of our sample would be school-achievement would tend to constitute a value. In order to further identify possible mediating elements studies on the value of education in attaining personal goals should also be assessed.

2. Based on the fact that in previous studies extraversion as measured by the Big Five and SSQ show interrelatedness (Oakland et al., 1996), following the line of thought explicated by Hofstede and McCrae (2004) we may expect that in individualistic countries extraversion would be more dominant, while in collectivistic cultures introversion is more frequent.

Four of the six countries show preferences as predicted by the hypothesis, although in case of two countries (PRC and US) the preference is not significant when compared to other countries. In case of Australia a significant preference for introversion is characteristic – instead of the predicted extraversion, and a significant preference of extraversion is characteristic of Costa Rica – instead of the expected preference for introversion.

A closer examination of age-related results underscores findings. Between country and within country analysis reaffirm that in Vietnam introversion, in USA extraversion is the leading preference when utilizing a nomothetic approach. An idiographic analysis points towards the fact that although significant changes take place as a function of age in Hungary, a preference for extraversion is seen as an important salient characteristic of Hungarian youth. In the case of PRC – although country-level data confirms an overall non-significant preference for introversion, within country regression analysis along age points out that significant change occurs as a function of age from a preference for extraversion to a preference for introversion. The initial preference for extraversion may possibly explained by sample characteristics (urban and Westernized) –which diminishes as values of larger society consistently impinge on the individual. In Costa Rica a significant preference for extraversion is verified in all statistical analysis. An overarching explanation for these phenomena occurring in economically such diverse environments might lie in factors effecting the value of children in families – and thereby influencing the predominant the family model, as well (Kagitcibasi, 1996). The family model of psychological interdependence has been shown to emerge in countries where economic development is increasing and previous models of tightly knit families were present. Costa Rica's economic affluence as compared to the other two countries characterized by collectivist cultures has been noted, which would mean that impinging on a traditional collectivist culture it could produce a family model of psychological interdependence where obedience and order are still important values but family ties are not seen as that exclusive. In Australia family values may not be as directly tied to the family model itself, but environmental

characteristics influencing every-day life may well have a similar effect. Due to the relative underdevelopment of local transport and the great distances involved – even within cities – parents tend to be very actively involved in the transportation of children when they are young (i.e. parents take children to and from official and leisure time activities if any appreciable distance is involved), thereby also playing the role of a control-agent in peer relationships. As children mature this role of parents dramatically decreases. Another possible alternative explanation is offered by the distribution of immigrants from different countries – whereby there is a strong tendency for immigrants from the same country to group together in one district – as this promotes a feeling of security. Age-related within country regression analysis asserts both alternatives as there is a significant decrease in the preference for introversion.

The tendency for extraversion to increase from age 9 to early adolescence (Oakland et al., 1996) – previously cited by literature – could not be verified.

3. Considering eco-cultural perspectives, and based on studies on the value of child (Kagitcibasi, 1996) which emphasizes that in economically less developed countries where the family model of interdependence prevails and the utilitarian value of the child is high, it would manifest in a more prevalent preference for practical style orientations.

This hypothesis was tested by the combined use of nomothetic and idiographic analysis. The expected result that practical preference will be predominant in economically underdeveloped countries can only be substantiated unequivocally in the case of Vietnam and PRC, but not in the case of Costa Rica. It was postulated differential media effects could also be a differential important socializing effect – television programmes necessitating a more abstract way of looking upon alternative realities my be also adding to socializing factors – where children are characteristically more involved in physical and on-hands activities. The fact that practical orientation shows a decrease with time – although no significant systematic changes are apparent – also leads us to hypothesize that participation in schooling may also have an effect on this dimension (especially if we take a look at the numeric values). Idiographic

analysis pointed out that the fact that Costa Rican youth is characterized by a preference for an imaginative style is only relative: as only a significant rejection of a practical orientation is present with the absence of an expressed preference for an imaginative style. On the other hand the opposite side only implicated by the hypothesis is fully verified: in all countries where a relatively higher economic development is characteristic (i.e. Australia, USA and Hungary) a preference for an imaginative style prevails.

4. This hypothesis regards value systems that not only affect family functioning, but also socialization procedures regarding work and work ethic, reflected in the dominant preferences on the different dimensions – and these would influence preferences more than the culture dimension of individualism/collectivism. That is country groups formed on the basis of dominant belief systems (Hungary-Costra Rica/ Vietnam-PRC/ Australia-USA) would be more similar in their preference combinations, than country groups formed a priori based on Hofstede's work (1994).

The six countries participating in the research were chosen in a fashion to provide a cross-sectioning of individualist and collectivist cultures as depicted by Hofstede (1994). Results also pointed to the fact that these are not homogenous qualities, at all. The most notable difference was between Latin-American (Costa Rica) and Asian collectivist countries (Vietnam and PRC). In contrast-analysis of countries involved Costa-Rica is characterized by opposite characteristics than PRC and Vietnam: a significant preference for extraversion – imaginative and thinking style. On the fourth characteristic the direction of preferences are the same, but youth in Costa Rica show a significant higher preference for an organised style than do PRC and Vietnam. This latter characteristic of Costa Rica sets them apart from characteristics of individualist cultures. This patterning of preferences tends to reaffirm notions that, in-line with a family model of psychological interdependence, the traditional value of in-group interdependence has loosened and with it the values governing socialization procedures have changed, individual agency and initiatives more valued. This in part may also be attributed to the long-standing public

education system – which is by far the most effective if we compare PRC, Vietnam and Costa Rica in this respect.

Individualist countries differed significantly, as well – due to the fact that both Australia and the US can be seen as host countries even today and that Hungary –in spite of all historical or chrono-system characteristics– was presumably greatly affected by socialist ideals that prevailed for over 40 years, usual social development stifled and artificially re-channelled. Youth in Hungary significantly differ in their preferences from samples originating from countries traditionally thought of as individualist culture (Australia and USA), by the fact that their preference for a flexible and thinking style is significantly lower than that characteristic of samples originating from individualist cultures. At the same preferences expressed by youth in Hungary is starkly set them apart from youth in PRC and Vietnam, as the sample originating in Hungary is characterized by polar opposite preferences (extraversion-imaginative-thinking-flexible) significantly differing from those expressed by youth in Vietnam and PRC. Thus youth in Costa Rica and Hungary are characterized by a mix of preferences that set them apart from the groups they were a priori assigned to, in a fashion as predicted – at the same time youth in the two countries, Hungary and Costa Rica only show similarity in their relative preference for extraversion.

5. If differential socialization processes are general in which parents, teachers and peers clearly relate to children differentially based upon gender (Jones et al., 1990; Jones & Wheatley, 1990; Kuebli & Fivush, 1992; Katona & Szitó,1999) emphasizing emotional harmony and emotional aspects of the relationship in case of girls, while reinforcing a more active stance in boys, we may hypothesize that girls – as opposed to boys – will show feeling preference significantly more frequently.

The most salient gender related preference is reflected in answers regarding preference for thinking versus feeling style. Boys and girls in all cultures conform to the pattern that boys – as compared to girls of their own culture – significantly prefer a thinking style (in an absolute or relative manner) more often. This can be attributed to differential socialization practices – or if one wishes to draw upon current research in neuropsychology and state there are sex-related differences in brain functioning

(Hassler, 2002). Once again cultural characteristics and socialization practices determine the value achieved on the dimension itself.

6. The above stated difference between genders will emerge in a more expressed fashion earlier in countries where patriarchal distinction between gender-role stereotypes exist (Best & Williams, 2003) and thus socialization practices will more markedly differ according to the gender of the child.

This hypothesis implies that in countries where a high value on gender-role differentiation is expressed not only a relative difference, but an absolute difference between genders will emerge. The dimension of thinking-feeling is one greatly influenced by gender-related socializing practices. Although one might expect that in cultures where gender-roles are stratified and emerge in a masculine orientation on culture level characterizations this would be more pronounced, this does not hold true. In all countries – except in PRC and Vietnam – males are characterized by a preference for thinking style and females by a significant preference for feeling style. Once again youth in Vietnam and PRC behave in a characteristically unique way as evidenced by contrast tests. In these two countries males' preference for a thinking style is only relatively true – in comparison with preferences expressed by females – as the values of both genders are on the feeling side of the continuum. This might be attributed to effects of political indoctrination that has artificially emphasized equality of genders at work – while not working outside the home is not an option – all citizens must work outside the home. These results emphasize that not only cultural and socialization practices and self-definition, but political ideologies indoctrinating the society, should be taken into account. The effect of these are salient in and mediated by formal socialization setting, i.e. formal schooling. A further possible mediating element is that of differential media usage. Media tend to utilize gender stereotypes and strengthen them. In countries where media is easily accessible and content of media is relatively uncensored, gender stereotypes may be strengthened in spite of all other effort to minimize them.

7. Our last hypothesis is that as a result of developmental processes the preference for flexibility increases with age. For younger children an environment

organized in time and space is a source of security, but with the growth of cognitive capacities and abilities rules imposed by other agents become in obstacle to self-realization. Thus a preference for flexibility emerges – if not in an absolute, but at least in a relative fashion – as this aspect may also be influenced by the "tightness" of culture (Trompenaars and Hampton-Turner, 1997), i.e. how consistently rules and norms are enforced in society and the socialization process.

The most salient, developmentally determined change as verified by universally significant regression-analysis results is that the distinct preference of 9 year-olds for an organised style steadily decreases until the age of 15, irrespective of gender and the country where the sample originates from. A preference for an organised style at age 9 is universally present, making the assumption that it is a developmental characteristic a viable one. A preference for organised style in younger students is interpreted that the structuring of the environment in time –in the form of daily routines– and space –knowing what to expect– serve as a source of security, which is a basic need. At the same time the same degree of structure will be looked upon as coercion and inhibiting limitation by adolescents 15 years of age. The degree of change is determined to a great extent by the freedom given to the individual by the given culture in the form of personal individual choices. The earlier and greater the degree of freedom ensured to the individual for asserting autonomy, a freedom to experiment with self-initiated activities the greater the increase in the need and preference for a flexible style. The numeric characteristic on the given dimension will determine the absolute place on the dimension at any given point in time.

Differences emerging among samples originating from countries with similar economic background point to the fact that value-systems are important mediators between social/culture level influences via socializing procedures are important aspects to be taken into account. Preferences in style are sensitive not only to ingrained cultural belief systems that have made their way to socialization procedures and values characteristically adopted by parents, but to more transient effects of media and social-political indoctrination, as well. Results show that these

latter elements are effectively conveyed by formal schooling and media. Future research should therefore focus attention on the values conveyed by these sources of influence. As the importance of education increases on the labour-market and the notion of life-long learning becomes prevalent so does the importance of school success. Schools and teachers need to be aware of individual preferences if they want to maximize the benefits of schooling for children and ensure success to as many as possible. Tools that identify preferences in a culturally sensitive manner are essential in order to make this possible. Idiographic analysis of student preferences has pointed out a possible further development of the use of the questionnaire. Idiographic analysis of preferences point out which characteristic preferences are used by the individual as a principle component in developing self-schemas. School psychologists – by identifying these – can facilitate the development of strengths-based approaches in teaching, which characteristically increases success and further motivation in learning. One of the primary goals of school psychologists around the world is to enhance effective functioning in the teaching-learning process and the identification of personal style preferences may take schools a step closer to taking them into account when devising their educational programme. Although the importance of identifying individual needs has been clearly recognized only extreme cases are warranted to receive the individualized attention they need. One of the first obstacles that need to be overcome is providing a means for efficiently identifying individual needs and make teachers conscious of it. The second step is to make teachers aware of how and what ways teaching may be accomplished to provide on optimal "goodness of fit" in the educational environment – ensuring adaptable styles and enabling students to utilize style preferences in a versatile manner.

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APPENDIX

Rank-order the following activities according to your preference as a leisure-time activity! Use every number from 1-15 ONCE! 1 denoting the activity you prefer to do the most and 15 means the activity you like to do the least!

_____	playing chess or doing crosswords	_____	read
_____	playing strategy games on a computer	_____	write a diary or poems
_____	role-playing	_____	drawing or photography
_____	play or listen to music	_____	watching videos
_____	going to the movies	_____	to be/hang around with friends
_____	going to the theatre	_____	snooker, darts, cards, etc.
_____	to dance	_____	other: (please specify):.....

Table A-1. Questionnaire on preferences of leisure-time activities

Why did you choose your elementary school and your secondary school? What were your options? Who choose the school? Are there schools which are thought of as "very good" schools? Why are they thought of as "good"?

What is your average school-day schedule like? If you think back to a week or so, what kind of activities did you do in your different classes? What kind of activities do you prefer? What is the best part of a school-day for you?

Is it expected that you learn after school-hours, as well? Do your teachers give you homework or other assignments to be completed out of school?

What behaviours do teachers expect from students? What do teachers do when students misbehave?

Who sets learning goals? How important is it for you to reach them? Do you think doing well in school is important? Why and why not? How important is it for your parents that you do well in school?

What are your goals in life? What would you like to be/to do when you finish secondary school? What influences whether you reach your goal or not? In what ways would doing well in school be important in reaching your goals – or would it be relatively unimportant?

Figure A-1. Focus-group interview questions

1. When in a large group, I most often	
A talk	E
B listen	I
4. After school I like to do something	
A alone	I
B with friends	E
7. I think best when	
A I speak out loud	E
B I keep my thoughts to myself	I
10. In school I prefer	
A quiet seat work	I
B active workgroups	E
13. I like to have	
A a few good friends	I
B lots of friends	E
16. I almost always	
A hide my feelings	I
B show my feelings	E
19. If I need to think about something important,	
A I find a friend I can talk with	E
B I go for a walk alone	I
22. When sitting next to others I don't know, I like	
A to stay quiet unless they talk to me first	I
B to talk to them first	E
24. Most people are likely to say I am	
A brave	E
B shy	I
26. I often	
A tell people what I really feel	E
B keep my feelings secret	I
30. When I see new students in my class,	
A I introduce myself to them	E
B I stand back and watch them for a while	I
36. I like sports that	
A I can do by myself (like hiking and swimming)	I
B I can play with a team (like volleyball and baseball)	E
39. When planning my birthday party, I want to invite	
A a few good friends	I
B many friends	E
42. In school I like to work	
A in a group	E
B on my own	I
46. I most often	
A keep my real thoughts to myself	I
B tell people what I am really thinking	E
49. I make new friends	
A more quickly than others	E
B more slowly than others	I
52. If others are playing a new game,	
A I watch for a while	I
B I jump right in and join them	E
54. In class, I talk	
A a lot	E
B a little	I
67. I most like to	
A read or watch TV	I
B talk with my friends	E

Table A-2.a The retained items of the questionnaire according to dimension: Extraversion-Introversion

3. I do my chores at home		31. I do my homework	
A	the way most people do them	P	A the way most students do it P
B	in my own way	M	B in my own way M
6. In school I like to learn about		34. I prefer stories that	
A	ideas that make me think in new ways	M	A are full of detail P
B	facts that help me know lots of things	P	B let my imagination wander M
9. I enjoy listening to others tell stories that are		41. For me, using my imagination	
A	made up	M	A is boring P
B	true	P	B is fun M
11. My ideas		45. I look up to people most who	
A	are about the same as those of others	P	A have ideas that are different M
B	are often different than those of others	M	B have ideas that work P
15. I like school subjects that		48. I like to be with people who have	
A	give me usable skills	P	A practical ideas P
B	spark my imagination	M	B unusual ideas M
25. I like to write about something that		51. I like to hear stories that	
A	really happened	P	A others make up M
B	I make up	M	B really happened to others P
29. Teachers are best who		64. I like to play games that	
A	teach me to think in new ways	M	A already have rules P
B	give me lots of information	P	B let us make up rules as we go along M

Table A-2.b The retained items of the questionnaire according to dimension: Practical-imaginative

12. When people disappoint me,		38. If I have work to do, I like to do it	
A	I forget it soon	T	43. If I could, I would prefer to help
B	I take a while to get over my hurt feelings	F	A design a house F
18. When it comes to the sad part of movies,			B build a house T
A	I feel sad	F	55. When I'm in a group that is upset because of some bad news,
B	I'm not really bothered	T	A I cry right with them F
28. When people say mean things to me, even when they're teasing,			B I don't cry because somebody has to be calm T
A	they hurt my feelings	F	
B	they do not bother me much	T	
37. When I see someone who is upset, I			
A	get upset too	F	
B	believe they'll get over it	T	

Table A-2.c The retained items of the questionnaire according to dimension: Thinking-Feeling

5. When doing school work, usually	
A I start it just before it's due	L
B I finish it long before it's due	O
8. I like to work on	
A one thing at a time	O
B many things at the same time	L
17. I like my desk to be	
A clean and orderly	O
B any old way	L
20. When my parents or teachers give me many jobs,	
A I start with the one I like and don't plan the order	L
B I make a list of them to do in order	O
23. Spelling or math contests	
A are fun and make students want to learn	O
B are mean because the losers feel bad	L
27. It is more important	
A to like what I am doing	L
B to finish what 1 start	O
32. After playing with games,	
A I leave them out	L
B I put them back where they belong"	O
35. I want my work to be	
A done correctly	O
B pleasing to others	L
A after I play	L
B before I play	O
44. When friends spend the night at my house,	
A I just see what happens when we are together	L
B I plan what we will do together	O
47. When practicing something like a musical instrument or a sport,	
A I carefully watch the time to be sure I practice enough	O
B I lose track of the time and have fun with what I am doing	L
53. When going to someone's home, I like to be there	
A a little before or after they said	L
B at the exact time they said	O
58. The way I see it, people should	
A make their work into play	L
B work before they play	O
60. I do my homework	
A at the last minute	L
B as soon as possible	O
61. If someone breaks a promise,	
A I feel hurt for a long time	F
B I get over it quickly	T
63. When I do something on a computer,	
A I just use it	L
B I wonder how it works	O
66. In my room	
A everything has its place	O
B I don't care much where things go	L
69. When I have school work, I most often	
A need to be reminded when it's due	L
B remember when it is due	O

Table A-2.d The retained items of the questionnaire according to dimension: Organized-Flexible

Table 3.A Parcel items for EI (extraverted-introverted)

Parcel	Items in parcel
EI 1	1, 26, 52
EI 2	4, 19, 36, 49
EI 3	7, 24, 46, 30
EI 4	10, 22, 39, 54
EI 5	13, 16, 42, 67

Table 3.B Parcel items for PM (practical-imaginative)

Parcel	Items in parcel
PM 1	3, 6, 9, 64
PM 2	11, 31, 41
PM 3	15, 29, 34, 48
PM 4	25, 45, 51

Table 3.C Parcel items for TF (thinking-feeling)

Parcel	Items in parcel
TF 1	12, 18, 37, 55
TF 2	28, 43, 61

Table 3.D Parcel items for TF (organized-flexible)

Parcel	Items in parcel
OL 1	23, 32, 53
OL 2	5, 38
OL 3	8, 10, 58
OL 4	27, 47, 63
OL 5	17, 35, 66
OL 6	20, 44, 69

Table A-3. Item parcels according to dimension

	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,655			
EI 2	,609			
EI 3	,683			
EI 4	,554			
EI 5	,660			
PM 1		,594		
PM 2		,622		
PM 3		,446		
PM 4		,396		
TF 1			,757	
TF 2			,710	
OL 1				,662
OL 2				,571
OL 3				,433
OL 4				,444
OL 5				,658
OL 6				,598

Table A-4. a Confirmatory factor-analysis: unrotated solutions
Eigen value > 1

	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,702			
EI 2	,644			
EI 3	,662			
EI 4	,655			
EI 5	,708			
PM 1		,714		
PM 2		,624		
PM 3		,573		
PM 4		,486		
TF 1			,795	
TF 2			,771	
OL 1				,694
OL 2				,670
OL 3				,468
OL 4				,477
OL 5				,637
OL 6				,695

Rotated Component MatrixExtraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations.

Table A-4. b Confirmatory factor-analysis: rotated solutions
Eigen value > 1

	Components			
item parcels	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,734			
EI 2	,680			
EI 3	,695			
EI 4	,748			
EI 5	,688			
PM 1		,728		
PM 2		,576		
PM 3		,604		
PM 4		,493		
TF 1			,761	
TF 2			,741	
OL 1				,750
OL 2				,720
OL 3				,540
OL 4		-,141		,453
OL 5			-,064	,510
OL 6				,751

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations.

Table A-5.a Confirmatory factor-analysis rotated solution for the Peoples' Republic of China (Eigen value > 1)

item parcels	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,689			
EI 2	,658			
EI 3	,691			
EI 4	,610			-,330
EI 5	,714			
PM 1		,752		
PM 2		,631		
PM 3		,525		
PM 4		,629		
TF 1			,837	
TF 2			,731	
OL 1				,628
OL 2				,690
OL 3				,594
OL 4				,586
OL 5				,630
OL 6				,733

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.Rotation converged in 4 iterations.

Table A-5.b Confirmatory factor-analysis rotated solution for Australia (Eigen value > 1)

item parcels	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,728			
EI 2	,692			
EI 3	,620			
EI 4	,585			-,220
EI 5	,752			
PM 1		,636		
PM 2		,448		-,173
PM 3		,579		,246
PM 4		,594		
TF 1			,786	
TF 2			,769	
OL 1				,691
OL 2				,665
OL 3				,515
OL 4				,536
OL 5				,692
OL 6				,759

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.Rotation converged in 4 iterations.

Table A-5.c Confirmatory factor-analysis rotated solution for Costa Rica (Eigen value > 1)

item parcels	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,619			
EI 2	,639			
EI 3	,652			
EI 4	,711			
EI 5	,714			
PM 1		,601		
PM 2		,461		
PM 3		,454		
PM 4		,412		,113
TF 1			,583	
TF 2			,701	,128
OL 1				,638
OL 2				,579
OL 3				,422
OL 4			,221	,506
OL 5				,654
OL 6				,658

Table A-5.d Confirmatory factor-analysis rotated solution for Hungary (Eigen value > 1)

item parcels	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,674			
EI 2	,500			
EI 3	,522			,280
EI 4	,501			
EI 5	,570			
PM 1		,600		
PM 2		,525		-,292
PM 3		,646		
PM 4		,491		
TF 1			,750	
TF 2			,665	
OL 1				,591
OL 2				,626
OL 3				,489
OL 4				,379
OL 5	-,077			,310
OL 6				,603

Table A-5.e Confirmatory factor-analysis rotated solution for Vietnam (Eigen value > 1)

item parcels	Components			
	extraversion - introversion	practical - imaginative	thinking – feeling	organized - flexible
EI 1	,875			
EI 2	,763			
EI 3	,742			
EI 4	,731			
EI 5	,772			
PM 1		,701		
PM 2		,824		
PM 3		,776		
PM 4		,699		
TF 1			,780	
TF 2			,863	
OL 1				,893
OL 2				,729
OL 3				,829
OL 4				,873
OL 5	-,04			,740
OL 6				,705

Table A-5.f Confirmatory factor-analysis rotated solution for USA (Eigen value > 1)

Four dimensions as item-parcels	No. of subjects	Number of items	Cronbach-alpha
Extra-introversion	2483	19	0.8187
Practical-imaginative	2483	14	0.7577
Thinking-feeling	2483	7	0.7574
Organized-flexible	2483	17	0.8271

Table A-6. The reliability of the four-factor model by dimensions / factors

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
EI 1	2,30	45,98	45,98	2,30	45,98	45,98
EI 2	0,86	17,17	63,15			
EI 3	0,67	13,33	76,48			
EI 4	0,60	11,99	88,47			
EI 5	0,58	11,53	100,00			

Table A-7. a Total variance explained by item-parcels on the extraversion-introversion dimension

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
PM 1	1,87	41,09	41,09	1,87	41,09	41,09
PM 2	0,90	21,82	62,90			
PM 3	0,87	19,41	82,32			
PM 4	0,71	17,69	100,00			

Table A-7. b Total variance explained by item-parcels on the practical-imaginative dimension

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
TF 1	1,31	65,37	65,37	1,31	65,37	65,37
TF 2	0,69	34,63	100,00			

Table A-7. c Total variance explained by item-parcels on the thinking-feeling dimension

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
OL 1	3,37	46,32	46,32	3,37	46,32	46,32
OL 2	0,88	13,52	59,85			
OL 3	0,84	11,00	70,85			
OL 4	0,69	10,02	80,87			
OL 5	0,65	10,67	91,54			
OL 6	0,57	9,46	100,00			

Table A-7. d Total variance explained by item-parcels on the organized-flexible dimension

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	186,88	47	3,98	4,22	0,00
Intercept	0,40	1	0,40	0,43	0,51
COUNTRY	96,38	5	19,28	20,45	0,00
AGE	7,22	3	2,41	2,55	0,05
GENDER	8,18	1	8,18	8,68	0,00
COUNTRY* AGE	39,25	15	2,62	2,78	0,00
COUNTRY * GENDER	10,82	5	2,16	2,30	0,04
AGE * GENDER	8,41	3	2,80	2,98	0,03
COUNTRY * AGE * GENDER	13,32	15	0,89	0,94	0,52
Error	2295,12	2435	0,94		
Total	2482	2483			
Corrected Total	2482	2482			

a R Squared = ,075 (Adjusted R Squared = ,057)

Table A-8. a Between subject effects on the dimension of extraversion-introversion by different independent variables

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	196,18	47	4,17	4,45	0,00
Intercept	0,13	1	0,13	0,13	0,72
COUNTRY	97,66	5	19,53	20,81	0,00
AGE	25,37	3	8,46	9,01	0,00
GENDER	0,94	1	0,94	1,00	0,32
COUNTRY* AGE	52,58	15	3,51	3,73	0,00
COUNTRY * GENDER	2,40	5	0,48	0,51	0,77
AGE * GENDER	0,45	3	0,15	0,16	0,92
COUNTRY * AGE * GENDER	14,82	15	0,99	1,05	0,40
Error	2285,825	2435	,939		
Total	2482	2483			
Corrected Total	2482	2482			

Table A-8. b Between subject effects on the dimension of practical-imaginative by different independent variables

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	485,08	47	10,32	12,59	0,00
Intercept	0,07	1	0,07	0,09	0,77
COUNTRY	164,91	5	32,98	40,22	0,00
AGE	3,01	3	1,00	1,22	0,30
GENDER	208,09	1	208,09	253,73	0,00
COUNTRY* AGE	39,82	15	2,66	3,24	0,00
COUNTRY * GENDER	43,63	5	8,73	10,64	0,00
AGE * GENDER	6,88	3	2,29	2,80	0,04
COUNTRY * AGE * GENDER	14,14	15	0,94	1,15	0,31
Error	1996,93	2435	0,82		
Total	2482	2483			
Corrected Total	2482	2482			

Table A-8. c Between subject effects on the dimension of thinking-feeling by different independent variables

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	688,74	47	14,65	19,90	0,00
Intercept	0,55	1	0,55	0,75	0,39
COUNTRY	314,12	5	62,82	85,31	0,00
AGE	10,39	1	10,39	14,11	0,00
GENDER	283,39	3	94,47	128,27	0,00
COUNTRY* AGE	7,57	5	1,51	2,05	0,07
COUNTRY * GENDER	54,87	15	3,66	4,97	0,00
AGE * GENDER	4,05	3	1,35	1,83	0,14
COUNTRY * AGE * GENDER	23,32	15	1,56	2,11	0,01
Error	1793,26	2435	0,74		
Total	2482,00	2483			
Corrected Total	2482,00	2482			

Table A-8. d Between subject effects on the dimension of organized-flexible by different independent variables

	Extraversion-introversion	Practical-imaginative	Thinking-feeling	Organized-flexible
playing chess or doing crosswords	-0,087*	-0,102*	0,074*	0,012
playing strategy games on a computer	-0,1**	-0,167**	0,209**	-0,025
role-playing	-0,108**	-0,106**	-0,033	-0,036
play or listen to music	0,104**	0,181**	-0,032	0,076*
going to the movies	0,081*	-0,016	-0,110**	-0,089**
going to the theatre	0,012	-0,011	-0,114**	-0,006
to dance	0,180**	0,107**	-0,183**	-0,009
play sport-games or sports	-0,115**	0,064*	0,116**	0,053
read	0,029	0,004	-0,111**	0,091**
write a diary or poems	-0,018	0,093**	-0,062	0,083**
drawing or photography	0,038	0,079*	-0,055	0,078*
watching videos	0,073*	0,084*	-0,047	0,002
to be/hang around with friends	0,148**	0,065*	-0,081**	-0,024
snooker, darts, cards, etc.	0,152**	0,019	0,153**	-0,055

Table A-9. Pearson correlation coefficients between preferred leisure-time activities and SSQ dimensions (** p<0,01; *p<0,05)

Country	Effect		Value	F	Hypothesis df	Error df	Sig.
PRC	GENDER	Pillai's Trace	0,04	4,32	4	389,00	0,00
		Wilks' Lambda	0,96	4,32	4	389,00	0,00
	AGE	Pillai's Trace	0,25	8,68	12	1173,00	0,00
		Wilks' Lambda	0,76	9,39	12	1029,49	0,00
Australia	GENDER	Pillai's Trace	0,19	21,11	4	358,00	0,00
		Wilks' Lambda	0,81	21,11	4	358,00	0,00
	AGE	Pillai's Trace	0,27	9,01	12	1080,00	0,00
		Wilks' Lambda	0,73	9,79	12	947,47	0,00
Costa Rica	GENDER	Pillai's Trace	0,12	14,02	4	421,00	0,00
		Wilks' Lambda	0,88	14,02	4	421,00	0,00
	AGE	Pillai's Trace	0,20	7,49	12	1269,00	0,00
		Wilks' Lambda	0,81	7,83	12	1114,15	0,00
	GENDER*AGE	Roy's Largest Root	0,20	21,04	4	423,00	0,00
Hungary	GENDER	Pillai's Trace	0,14	16,46	4	390,00	0,00
		Wilks' Lambda	0,86	16,46	4	390,00	0,00
	AGE	Pillai's Trace	0,29	10,40	12	1176,00	0,00
		Wilks' Lambda	0,72	11,26	12	1032,14	0,00
	GENDER*AGE	Pillai's Trace	0,05	1,79	12	1176,00	0,05
		Wilks' Lambda	0,95	1,79	12	1032,14	0,05
Vietnam	AGE	Pillai's Trace	0,15	4,81	12	1116,00	0,00
		Wilks' Lambda	0,86	4,93	12	979,22	0,00
	GENDER*AGE	Pillai's Trace	0,07	2,06	12	1116,00	0,02
		Wilks' Lambda	0,94	2,07	12	979,22	0,02
USA	GENDER	Pillai's Trace	0,20	30,68	4	489,00	0,00
		Wilks' Lambda	0,80	30,68	4	489,00	0,00
	AGE	Pillai's Trace	0,11	4,80	12	1473,00	0,00
		Wilks' Lambda	0,89	4,94	12	1294,06	0,00

Table A-10. Multivariate tests of variance within countries for factors gender, age and aggragated variable gender*age for the four dimensions of SSQ

country	Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
PRC	Corrected Model	Zscore(P_SUM)	18,61	7	72,66	2,71	0,01
		Zscore(T_SUM)	16,80	7	2,40	2,92	0,01
		Zscore(O_SUM)	76,37	7	10,91	15,25	0,00
	Intercept	Zscore(P_SUM)	33,56	1	33,56	34,27	0,00
		Zscore(T_SUM)	13,27	1	13,27	16,17	0,00
		Zscore(O_SUM)	35,53	1	35,53	49,66	0,00
	GENDER	Zscore(T_SUM)	9,94	1	9,94	12,11	0,00
		Zscore(O_SUM)	3,07	1	3,07	4,29	0,04
	AGE	Zscore(E_SUM)	9,21	3	3,07	2,75	0,04
		Zscore(P_SUM)	14,78	3	4,93	5,03	0,00
		Zscore(O_SUM)	70,41	3	23,47	32,81	0,00
Australia	Corrected Model	Zscore(E_SUM)	22,71	7	3,25	3,12	0,00
		Zscore(T_SUM)	82,72	7	11,82	11,34	0,00
		Zscore(O_SUM)	120,36	7	17,19	17,42	0,00
	Intercept	Zscore(E_SUM)	5,78	1	5,78	5,55	0,02
		Zscore(P_SUM)	10,92	1	10,92	9,12	0,00
		Zscore(T_SUM)	26,04	1	26,04	24,99	0,00
		Zscore(O_SUM)	160,68	1	160,68	162,79	0,00
	GENDER	Zscore(E_SUM)	6,24	1	6,24	6,00	0,02
		Zscore(T_SUM)	73,35	1	73,35	70,39	0,00
	AGE	Zscore(E_SUM)	12,77	3	4,26	4,09	0,01
		Zscore(O_SUM)	107,38	3	35,79	36,27	0,00
Costa Rica	Corrected Model	Zscore(T_SUM)	46,56	7	6,65	9,44	0,00
		Zscore(O_SUM)	72,95	7	10,42	13,15	0,00
	Intercept	Zscore(E_SUM)	31,81	1	31,81	34,52	0,00
		Zscore(P_SUM)	13,25	1	13,25	18,17	0,00
		Zscore(T_SUM)	15,16	1	15,16	21,53	0,00
		Zscore(O_SUM)	90,68	1	90,68	114,46	0,00
	GENDER	Zscore(T_SUM)	34,89	1	34,89	49,54	0,00
		Zscore(O_SUM)	5,20	1	5,20	6,56	0,01
	AGE	Zscore(O_SUM)	66,39	3	22,13	27,93	0,00
	GENDER*AGE	Zscore(T_SUM)	8,84	3	2,95	4,18	0,01

Table A-11.a Multivariate tests of variance tests of between subject effects within countries for factors gender, age and aggragated variable gender*age for the four dimensions of SSQ (PRC, Australia and Costa Rica)

country	Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Hungary	Corrected Model	Zscore(E_SUM)	18,94	7	2,71	3,02	0,00
		Zscore(P_SUM)	30,32	7	4,33	5,17	0,00
		Zscore(T_SUM)	72,81	7	10,40	15,95	0,00
		Zscore(O_SUM)	57,06	7	8,15	14,72	0,00
	Intercept	Zscore(O_SUM)	9,21	1	9,21	16,63	0,00
	GENDER	Zscore(E_SUM)	5,11	1	5,11	5,70	0,02
		Zscore(T_SUM)	34,93	1	34,93	53,56	0,00
		Zscore(O_SUM)	1,62	1	1,62	2,92	0,09
	AGE	Zscore(E_SUM)	9,05	3	3,02	3,37	0,02
		Zscore(P_SUM)	27,18	3	9,06	10,82	0,00
		Zscore(T_SUM)	29,06	3	9,69	14,85	0,00
		Zscore(O_SUM)	53,22	3	17,74	32,03	0,00
Vietnam	Corrected Model	Zscore(E_SUM)	9,47	7	1,35	2,49	0,02
		Zscore(P_SUM)	31,40	7	4,49	6,36	0,00
		Zscore(O_SUM)	11,33	7	1,62	3,10	0,00
	Intercept	Zscore(E_SUM)	53,06	1	53,06	97,81	0,00
		Zscore(P_SUM)	31,98	1	31,98	45,33	0,00
		Zscore(T_SUM)	92,17	1	92,17	129,16	0,00
		Zscore(O_SUM)	6,69	1	6,69	12,80	0,00
	GENDER	Zscore(T_SUM)	4,23	1	4,23	5,93	0,02
	AGE	Zscore(P_SUM)	24,16	3	8,05	11,41	0,00
		Zscore(O_SUM)	7,38	3	2,46	4,70	0,00
	GENDER*AGE	Zscore(P_SUM)	6,46	3	2,15	3,05	0,03
USA	Corrected Model	Zscore(E_SUM)	17,60	7	2,51	2,31	0,03
		Zscore(T_SUM)	107,80	7	15,40	15,86	0,00
		Zscore(O_SUM)	55,09	7	7,87	9,49	0,00
	Intercept	Zscore(P_SUM)	5,74	1	5,74	4,97	0,03
		Zscore(T_SUM)	17,40	1	17,40	17,91	0,00
		Zscore(O_SUM)	11,34	1	11,34	13,68	0,00
	GENDER	Zscore(E_SUM)	7,05	1	7,05	6,48	0,01
		Zscore(T_SUM)	99,72	1	99,72	102,67	0,00
		Zscore(O_SUM)	9,06	1	9,06	10,93	0,00
	AGE	Zscore(O_SUM)	36,12	3	12,04	14,52	0,00
	GENDER*AGE	Zscore(O_SUM)	10,10	3	3,37	4,06	0,01

Table A-11.b Multivariate tests of variance tests of between subject effects within countries for factors gender, age and aggragated variable gender*age for the four dimensions of SSQ (Hungary, Vietnam and USA)

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Zscore E	PRC	400	-0,01	1,06	0,05	-0,11	0,10
	Australia	369	-0,13	1,04	0,05	-0,23	-0,03
	Costa Rica	432	0,27	0,96	0,05	0,18	0,36
	Hungary	401	0,06	0,96	0,05	-0,03	0,15
	Vietnam	381	-0,36	0,75	0,04	-0,44	-0,29
	USA	500	0,10	1,05	0,05	0,01	0,19
	Total	2483	0,00	1,00	0,02	-0,04	0,04
Zscore P	PRC	400	0,28	1,00	0,05	0,19	0,38
	Australia	369	-0,17	1,09	0,06	-0,28	-0,06
	Costa Rica	432	-0,17	0,85	0,04	-0,25	-0,10
	Hungary	401	-0,08	0,95	0,05	-0,17	0,01
	Vietnam	381	0,28	0,88	0,05	0,19	0,37
	USA	500	-0,11	1,08	0,05	-0,20	-0,01
	Total	2483	0,00	1,00	0,02	-0,04	0,04
Zscore T)	PRC	400	-0,18	0,92	0,05	-0,27	-0,09
	Australia	369	0,21	1,12	0,06	0,10	0,32
	Costa Rica	432	0,18	0,89	0,04	0,10	0,26
	Hungary	401	0,05	0,91	0,05	-0,04	0,13
	Vietnam	381	-0,48	0,85	0,04	-0,57	-0,40
	USA	500	0,16	1,08	0,05	0,07	0,25
	Total	2483	0,00	1,00	0,02	-0,04	0,04
Zscore O	PRC	400	0,29	0,95	0,05	0,20	0,39
	Australia	369	-0,62	1,14	0,06	-0,74	-0,50
	Costa Rica	432	0,45	0,97	0,05	0,36	0,54
	Hungary	401	-0,14	0,83	0,04	-0,22	-0,07
	Vietnam	381	0,13	0,74	0,04	0,06	0,20
	USA	500	-0,15	0,96	0,04	-0,23	-0,07
	Total	2483	0,00	1,00	0,02	-0,04	0,04

Table A-12. Descriptives of ANOVA contrast tests between countries

		Sum of Squares	df	Mean Square	F	Sig.
Zscore E	Between Groups	97,10	5,00	19,42	20,16	0,00
	Within Groups	2384,90	2477,00	0,96		
	Total	2482,00	2482,00			
Zscore P	Between Groups	97,56	5,00	19,51	20,26	0,00
	Within Groups	2384,44	2477,00	0,96		
	Total	2482,00	2482,00			
Zscore T	Between Groups	149,52	5,00	29,90	31,75	0,00
	Within Groups	2332,48	2477,00	0,94		
	Total	2482,00	2482,00			
Zscore O	Between Groups	295,58	5,00	59,12	66,97	0,00
	Within Groups	2186,42	2477,00	0,88		
	Total	2482,00	2482,00			

Table A-13. ANOVA between countries on the four dimensions

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Zscore E	Australia	-,72	0,29	-2,49	484,18	0,01
	Costa Rica	1,70	0,26	6,66	632,97	0,00
	Vietnam	-2,14	0,22	-9,68	667,61	0,00
	USA	,67	0,26	2,59	722,72	0,01
Zscore P	PRC	1,69	0,27	6,21	553,87	0,00
	Australia	-1,06	0,30	-3,53	471,99	0,00
	Costa Rica	-1,09	0,23	-4,71	706,14	0,00
	Hungary	-,51	0,26	-1,99	580,51	0,05
	Vietnam	1,68	0,25	6,70	573,80	0,00
	USA	-,69	0,26	-2,64	713,47	0,01
Zscore T	PRC	-1,03	0,25	-4,08	585,55	0,00
	Australia	1,35	0,31	4,39	461,75	0,00
	Costa Rica	1,15	0,24	4,80	668,54	0,00
	Vietnam	-2,86	0,24	-11,76	584,30	0,00
	USA	1,03	0,26	3,93	702,65	0,00
Zscore O	PRC	1,82	0,26	7,09	561,80	0,00
	Australia	-3,70	0,31	-11,89	450,36	0,00
	Costa Rica	2,76	0,26	10,78	610,41	0,00
	Hungary	-,84	0,23	-3,66	627,62	0,00
	Vietnam	,83	0,22	3,86	651,23	0,00
	USA	-,87	0,24	-3,64	753,61	0,00

Table A-14. Significant contrast coefficients and results of contrast test for comparisons among countries if equal variances are not assumed when one country is contrasted with the remaining five

Age			N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
							Lower	Upper
9 year-olds	Zscore E	PRC	100	0,19	0,88	0,09	0,02	0,37
		Australia	98	-0,43	0,82	0,08	-0,60	-0,27
		Costa Rica	106	0,15	0,80	0,08	-0,01	0,30
		Hungary	99	0,23	0,73	0,07	0,08	0,37
		Vietnam	93	-0,18	0,62	0,06	-0,31	-0,05
		USA	95	-0,01	0,76	0,08	-0,16	0,15
	Zscore P	PRC	100	0,56	0,92	0,09	0,38	0,74
		Australia	98	-0,06	1,02	0,10	-0,26	0,15
		Costa Rica	106	0,00	0,76	0,07	-0,14	0,15
		Hungary	99	0,07	0,85	0,09	-0,10	0,24
		Vietnam	93	0,73	0,83	0,09	0,56	0,90
		USA	95	-0,29	1,08	0,11	-0,51	-0,06
	Zscore T	PRC	100	-0,16	1,02	0,10	-0,36	0,05
		Australia	98	0,15	0,99	0,10	-0,05	0,35
		Costa Rica	106	0,27	0,96	0,09	0,09	0,46
		Hungary	99	0,43	0,80	0,08	0,27	0,59
		Vietnam	93	-0,62	0,91	0,09	-0,81	-0,43
		USA	95	0,23	1,00	0,10	0,03	0,44
	Zscore O	PRC	100	0,67	0,77	0,08	0,51	0,82
		Australia	98	0,16	0,99	0,10	-0,04	0,36
		Costa Rica	106	0,81	0,69	0,07	0,68	0,94
		Hungary	99	0,25	0,69	0,07	0,11	0,39
		Vietnam	93	0,26	0,62	0,06	0,13	0,39
		USA	95	0,27	0,89	0,09	0,08	0,45
11year-olds	Zscore E	PRC	100	0,06	1,02	0,10	-0,14	0,26
		Australia	98	0,01	1,04	0,10	-0,19	0,22
		Costa Rica	107	0,21	0,98	0,09	0,03	0,40
		Hungary	100	-0,11	0,84	0,08	-0,28	0,05
		Vietnam	100	-0,38	0,79	0,08	-0,54	-0,22
		USA	162	0,02	1,03	0,08	-0,14	0,18
	Zscore P	PRC	100	0,35	0,80	0,08	0,19	0,51
		Australia	98	-0,31	1,07	0,11	-0,52	-0,09
		Costa Rica	107	-0,19	0,85	0,08	-0,36	-0,03
		Hungary	100	0,24	0,91	0,09	0,06	0,42
		Vietnam	100	0,11	0,84	0,08	-0,06	0,28
		USA	162	-0,06	1,01	0,08	-0,22	0,09
	Zscore T	PRC	100	-0,25	0,88	0,09	-0,42	-0,07
		Australia	98	0,18	1,22	0,12	-0,06	0,43
		Costa Rica	107	0,09	0,83	0,08	-0,07	0,24
		Hungary	100	0,15	0,80	0,08	-0,01	0,31
		Vietnam	100	-0,47	0,93	0,09	-0,66	-0,29
		USA	162	0,09	1,05	0,08	-0,08	0,25
	Zscore O	PRC	100	0,68	0,83	0,08	0,51	0,84
		Australia	98	-0,46	1,06	0,11	-0,67	-0,25
		Costa Rica	107	0,84	0,68	0,07	0,71	0,97
		Hungary	100	0,15	0,60	0,06	0,04	0,27
		Vietnam	100	0,28	0,72	0,07	0,14	0,42
		USA	162	0,01	0,90	0,07	-0,13	0,15

Table A-15.a Descriptives of ANOVA contrast tests between countries within age-groups: 9 & 11 year-olds

Age			N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
							Lower	Upper
13 year-olds	Zscore E	PRC	100	-0,05	1,11	0,11	-0,28	0,17
		Australia	74	0,02	1,25	0,14	-0,27	0,31
		Costa Rica	108	0,48	1,01	0,10	0,29	0,68
		Hungary	102	0,19	0,96	0,10	0,00	0,38
		Vietnam	95	-0,44	0,77	0,08	-0,59	-0,28
		USA	159	0,22	1,14	0,09	0,04	0,40
	Zscore P	PRC	100	0,22	1,10	0,11	0,00	0,44
		Australia	74	-0,16	1,02	0,12	-0,40	0,08
		Costa Rica	108	-0,27	0,91	0,09	-0,45	-0,10
		Hungary	102	-0,17	0,86	0,09	-0,34	0,00
		Vietnam	95	0,13	0,89	0,09	-0,05	0,31
		USA	159	-0,12	1,05	0,08	-0,29	0,04
	Zscore T	PRC	100	-0,31	0,86	0,09	-0,49	-0,14
		Australia	74	0,44	1,04	0,12	0,20	0,68
		Costa Rica	108	0,23	0,86	0,08	0,07	0,40
		Hungary	102	0,00	0,87	0,09	-0,17	0,17
		Vietnam	95	-0,44	0,78	0,08	-0,60	-0,28
		USA	159	0,15	1,11	0,09	-0,02	0,33
	Zscore O	PRC	100	0,20	0,82	0,08	0,04	0,36
		Australia	74	-1,16	1,08	0,13	-1,41	-0,91
		Costa Rica	108	0,29	1,05	0,10	0,08	0,49
		Hungary	102	-0,35	0,78	0,08	-0,50	-0,19
		Vietnam	95	-0,04	0,81	0,08	-0,21	0,12
		USA	159	-0,39	1,01	0,08	-0,55	-0,24
15 year-olds	Zscore E	PRC	100	-0,22	1,18	0,12	-0,46	0,01
		Australia	99	-0,09	1,03	0,10	-0,30	0,11
		Costa Rica	111	0,24	1,02	0,10	0,05	0,43
		Hungary	100	-0,05	1,22	0,12	-0,29	0,20
		Vietnam	93	-0,48	0,77	0,08	-0,64	-0,32
		USA	84	0,15	1,19	0,13	-0,11	0,41
	Zscore P	PRC	100	0,03	1,11	0,11	-0,19	0,25
		Australia	99	-0,15	1,21	0,12	-0,40	0,09
		Costa Rica	111	-0,24	0,88	0,08	-0,40	-0,07
		Hungary	100	-0,45	1,02	0,10	-0,66	-0,25
		Vietnam	93	0,19	0,82	0,09	0,02	0,36
		USA	84	0,04	1,21	0,13	-0,22	0,30
	Zscore T	PRC	100	-0,01	0,89	0,09	-0,19	0,16
		Australia	99	0,14	1,18	0,12	-0,09	0,38
		Costa Rica	111	0,14	0,93	0,09	-0,03	0,32
		Hungary	100	-0,38	0,97	0,10	-0,57	-0,19
		Vietnam	93	-0,42	0,76	0,08	-0,57	-0,26
		USA	84	0,25	1,18	0,13	0,00	0,51
	Zscore O	PRC	100	-0,35	0,97	0,10	-0,54	-0,15
		Australia	99	-1,17	0,87	0,09	-1,34	-0,99
		Costa Rica	111	-0,09	1,07	0,10	-0,30	0,11
		Hungary	100	-0,64	0,89	0,09	-0,81	-0,46
		Vietnam	93	0,03	0,74	0,08	-0,12	0,18
		USA	84	-0,47	0,84	0,09	-0,65	-0,29

Table A-15.b Descriptives of ANOVA contrast tests between countries within age-groups: 13 & 15 year-olds

Age			Sum of Squares	df	Mean Square	F	Sig.
9 year-olds	Zscore E	Between Groups	32,35	5,00	6,47	10,80	0,00
		Within Groups	350,62	585,00	0,60		
		Total	382,98	590,00			
	Zscore P	Between Groups	73,25	5,00	14,65	17,45	0,00
		Within Groups	491,23	585,00	0,84		
		Total	564,48	590,00			
	Zscore T	Between Groups	69,61	5,00	13,92	15,40	0,00
		Within Groups	528,96	585,00	0,90		
		Total	598,56	590,00			
	Zscore O	Between Groups	36,44	5,00	7,29	11,78	0,00
		Within Groups	361,99	585,00	0,62		
		Total	398,43	590,00			
11 year-olds	Zscore E	Between Groups	20,62	5,00	4,12	4,45	0,00
		Within Groups	612,57	661,00	0,93		
		Total	633,18	666,00			
	Zscore P	Between Groups	33,15	5,00	6,63	7,72	0,00
		Within Groups	567,66	661,00	0,86		
		Total	600,81	666,00			
	Zscore T	Between Groups	35,49	5,00	7,10	7,54	0,00
		Within Groups	621,90	661,00	0,94		
		Total	657,39	666,00			
	Zscore O	Between Groups	115,00	5,00	23,00	34,36	0,00
		Within Groups	442,41	661,00	0,67		
		Total	557,41	666,00			
13 year-olds	Zscore E	Between Groups	49,23	5,00	9,85	8,92	0,00
		Within Groups	697,94	632,00	1,10		
		Total	747,17	637,00			
	Zscore P	Between Groups	18,61	5,00	3,72	3,86	0,00
		Within Groups	609,37	632,00	0,96		
		Total	627,98	637,00			
	Zscore T	Between Groups	52,28	5,00	10,46	11,83	0,00
		Within Groups	558,84	632,00	0,88		
		Total	611,12	637,00			
	Zscore O	Between Groups	119,41	5,00	23,88	27,28	0,00
		Within Groups	553,36	632,00	0,88		
		Total	672,77	637,00			
15year-olds	Zscore E	Between Groups	33,07	5,00	6,61	5,68	0,00
		Within Groups	676,61	581,00	1,17		
		Total	709,68	586,00			
	Zscore P	Between Groups	26,13	5,00	5,23	4,77	0,00
		Within Groups	636,25	581,00	1,10		
		Total	662,38	586,00			
	Zscore T	Between Groups	39,19	5,00	7,84	7,96	0,00
		Within Groups	571,95	581,00	0,98		
		Total	611,14	586,00			
	Zscore O	Between Groups	90,86	5,00	18,17	21,98	0,00
		Within Groups	480,44	581,00	0,83		
		Total	571,30	586,00			

Table A-16. ANOVA between countries within age-groups

AGE		Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
9 year-olds	Zscore E	PRC	1,19	0,47	2,53	129,64	0,01
		Australia	-2,55	0,45	-5,71	132,72	0,00
		Costa Rica	0,93	0,43	2,18	149,33	0,03
		Hungary	1,42	0,41	3,50	146,47	0,00
		Vietnam	-1,02	0,37	-2,76	154,64	0,01
	Zscore P	PRC	2,33	0,50	4,61	142,29	0,00
		Australia	-1,37	0,56	-2,48	128,45	0,02
		Costa Rica	-1,01	0,43	-2,35	183,63	0,02
		Vietnam	3,37	0,48	7,04	139,57	0,00
		USA	-2,74	0,59	-4,64	119,06	0,00
	Zscore T	PRC	-1,25	0,55	-2,26	134,73	0,03
		Costa Rica	1,33	0,51	2,59	153,56	0,01
		Hungary	2,28	0,46	4,97	162,85	0,00
		Vietnam	-4,02	0,52	-7,73	132,56	0,00
		USA	1,08	0,56	1,94	127,66	0,05
	Zscore O	PRC	1,59	0,43	3,73	144,27	0,00
		Australia	-1,44	0,53	-2,73	119,23	0,01
		Costa Rica	2,46	0,38	6,46	173,60	0,00
		Hungary	-0,93	0,39	-2,37	155,75	0,02
		Vietnam	-0,85	0,37	-2,30	158,59	0,02
11 year-olds	Zscore E	Costa Rica	1,48	0,51	2,87	147,64	0,01
		Vietnam	-2,09	0,45	-4,66	159,84	0,00
	Zscore P	PRC	1,97	0,45	4,42	153,05	0,00
		Australia	-1,98	0,57	-3,46	120,92	0,00
		Costa Rica	-1,30	0,45	-2,85	160,52	0,01
		Hungary	1,30	0,49	2,63	137,98	0,01
	Zscore T	PRC	-1,27	0,49	-2,61	146,79	0,01
		Australia	1,30	0,64	2,02	116,13	0,05
		Hungary	1,12	0,45	2,48	159,49	0,01
		Vietnam	-2,61	0,51	-5,14	140,70	0,00
	Zscore O	PRC	2,56	0,45	5,72	135,39	0,00
		Australia	-4,26	0,56	-7,66	114,61	0,00
		Costa Rica	3,53	0,38	9,41	173,62	0,00
		USA	-1,45	0,39	-3,67	246,17	0,00
13 year-olds	Zscore E	Costa Rica	2,48	0,54	4,59	161,72	0,00
		Vietnam	-3,04	0,46	-6,57	174,80	0,00
	Zscore P	PRC	1,69	0,59	2,87	129,58	0,01
		Costa Rica	-1,25	0,49	-2,56	165,76	0,01
		Vietnam	1,16	0,51	2,28	140,27	0,02
	Zscore T	PRC	-1,95	0,48	-4,08	147,83	0,00
		Australia	2,58	0,63	4,07	87,88	0,00
		Costa Rica	1,33	0,46	2,87	165,80	0,01
		Vietnam	-2,72	0,45	-6,04	150,37	0,00
	Zscore O	PRC	2,65	0,46	5,76	157,05	0,00
		Australia	-5,48	0,66	-8,37	86,94	0,00
		Costa Rica	3,17	0,55	5,81	143,40	0,00
		Vietnam	1,19	0,47	2,57	147,31	0,01
		USA	-0,91	0,45	-2,00	251,33	0,05
15 year-olds	Zscore E	Costa Rica	1,90	0,55	3,47	173,18	0,00
		Vietnam	-2,43	0,47	-5,14	178,36	0,00
		USA	1,37	0,69	1,98	105,66	0,05
	Zscore P	Hungary	-2,14	0,57	-3,79	146,64	0,00
		Vietnam	1,74	0,49	3,53	161,40	0,00
	Zscore T	Costa Rica	1,13	0,50	2,27	175,69	0,03
		Hungary	-2,02	0,54	-3,77	146,69	0,00
		Vietnam	-2,23	0,46	-4,85	164,96	0,00
		USA	1,78	0,68	2,63	101,99	0,01
	Zscore O	Australia	-4,31	0,48	-8,92	144,10	0,00
		Costa Rica	2,12	0,54	3,90	145,40	0,00
		Hungary	-1,14	0,49	-2,34	143,85	0,02
		Vietnam	2,86	0,44	6,56	152,33	0,00

Table A-17. Significant contrast coefficients and results of contrast test for comparisons among countries within age-groups if equal variances are not assumed

			N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
							Lower B.	Upper B.
PRC	Zscore E	9 year-olds	100,00	0,19	0,88	0,09	0,02	0,37
		15 year-olds	100,00	-0,22	1,18	0,12	-0,46	0,01
	Zscore P	9 year-olds	100,00	0,56	0,92	0,09	0,38	0,74
		15 year-olds	100,00	0,03	1,11	0,11	-0,19	0,25
	Zscore T	9 year-olds	100,00	-0,16	1,02	0,10	-0,36	0,05
		15 year-olds	100,00	-0,01	0,89	0,09	-0,19	0,16
	Zscore O	9 year-olds	100,00	0,67	0,77	0,08	0,51	0,82
		15 year-olds	100,00	-0,35	0,97	0,10	-0,54	-0,15
Australia	Zscore E	9 year-olds	98,00	-0,43	0,82	0,08	-0,60	-0,27
		15 year-olds	99,00	-0,09	1,03	0,10	-0,30	0,11
	Zscore P	9 year-olds	98	-0,06	1,02	0,10	-0,26	0,15
		15 year-olds	99	-0,15	1,21	0,12	-0,40	0,09
	Zscore T	9 year-olds	98	0,15	0,99	0,10	-0,05	0,35
		15 year-olds	99	0,14	1,18	0,12	-0,09	0,38
	Zscore O	9 year-olds	98	0,16	0,99	0,10	-0,04	0,36
		15 year-olds	99	-1,17	0,87	0,09	-1,34	-0,99
Costa Rica	Zscore E	9 year-olds	106	0,15	0,80	0,08	-0,01	0,30
		15 year-olds	111	0,24	1,02	0,10	0,05	0,43
	Zscore P	9 year-olds	106	0,00	0,76	0,07	-0,14	0,15
		15 year-olds	111	-0,24	0,88	0,08	-0,40	-0,07
	Zscore T	9 year-olds	106	0,27	0,96	0,09	0,09	0,46
		15 year-olds	111	0,14	0,93	0,09	-0,03	0,32
	Zscore O	9 year-olds	106	0,81	0,69	0,07	0,68	0,94
		15 year-olds	111	-0,09	1,07	0,10	-0,30	0,11
Hungary	Zscore E	9 year-olds	99	0,23	0,73	0,07	0,08	0,37
		15 year-olds	100	-0,05	1,22	0,12	-0,29	0,20
	Zscore P	9 year-olds	99	0,07	0,85	0,09	-0,10	0,24
		15 year-olds	100	-0,45	1,02	0,10	-0,66	-0,25
	Zscore T	9 year-olds	99	0,43	0,80	0,08	0,27	0,59
		15 year-olds	100	-0,38	0,97	0,10	-0,57	-0,19
	Zscore O	9 year-olds	99	0,25	0,69	0,07	0,11	0,39
		15 year-olds	100	-0,64	0,89	0,09	-0,81	-0,46
Vietnam	Zscore E	9 year-olds	93	-0,18	0,62	0,06	-0,31	-0,05
		15 year-olds	93	-0,48	0,77	0,08	-0,64	-0,32
	Zscore P	9 year-olds	93	0,73	0,83	0,09	0,56	0,90
		15 year-olds	93	0,19	0,82	0,09	0,02	0,36
	Zscore T	9 year-olds	93	-0,62	0,91	0,09	-0,81	-0,43
		15 year-olds	93	-0,42	0,76	0,08	-0,57	-0,26
	Zscore O	9 year-olds	93	0,26	0,62	0,06	0,13	0,39
		15 year-olds	93	0,03	0,74	0,08	-0,12	0,18
USA	Zscore E	9 year-olds	95	-0,01	0,76	0,08	-0,16	0,15
		15 year-olds	84	0,15	1,19	0,13	-0,11	0,41
	Zscore P	9 year-olds	95	-0,29	1,08	0,11	-0,51	-0,06
		15 year-olds	84	0,04	1,21	0,13	-0,22	0,30
	Zscore T	9 year-olds	95	0,23	1,00	0,10	0,03	0,44
		15 year-olds	84	0,25	1,18	0,13	0,00	0,51
	Zscore O	9 year-olds	95	0,27	0,89	0,09	0,08	0,45
		15 year-olds	84	-0,47	0,84	0,09	-0,65	-0,29

Table A-18. Descriptives for contrast coefficients and results of contrast test for comparisons within countries among 9 and 15 year-olds

country		Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
PRC	Zscore E	0,41	0,15	2,81	183,21	0,01
	Zscore P	0,53	0,14	3,66	191,60	0,00
	Zscore O	1,01	0,12	8,15	188,27	0,00
Australia	Zscore E	-0,34	0,13	-2,56	186,22	0,01
	Zscore O	1,33	0,13	9,96	191,15	0,00
Costa Rica	Zscore P	0,24	0,11	2,15	213,00	0,03
	Zscore O	0,91	0,12	7,46	188,94	0,00
Hungary	Zscore P	0,53	0,13	3,95	191,52	0,00
	Zscore T	0,81	0,13	6,46	190,99	0,00
	Zscore O	0,89	0,11	7,84	186,95	0,00
Vietnam	Zscore E	0,30	0,10	2,95	176,47	0,00
	Zscore P	0,54	0,12	4,46	183,98	0,00
	Zscore O	0,23	0,10	2,31	178,54	0,02
USA	Zscore O	0,74	0,13	5,71	176,33	0,00

Table A-19. Significant contrast coefficients and results of contrast test for comparisons within countries among 9 and 15 year-olds if equal variances are not assumed

		Unstandardized Coefficients		Standardized Coefficients
country	country	B	SE B	β
	PRC	-0,07	0,02	-0,14**
	Australia	0,05	0,02	0,11*
Extraversion-introversion	Costa Rica	0,03	0,02	0,06
	Hungary	-0,03	0,02	-0,06
	Vietnam	-0,05	0,02	-0,14**
	USA	0,04	0,02	0,07
	PRC	-0,09	0,02	-0,19**
	Australia	-0,01	0,03	-0,02
Practical-imaginative	Costa Rica	-0,04	0,02	-0,10*
	Hungary	-0,10	0,02	-0,24**
	Vietnam	-0,08	0,02	-0,20**
	USA	0,04	0,02	0,07
	PRC	0,02	0,02	0,05
	Australia	0,01	0,03	0,02
Thinking-feeling	Costa Rica	-0,01	0,02	-0,03
	Hungary	-0,13	0,02	-0,32**
	Vietnam	0,03	0,02	0,08
	USA	0,01	0,03	0,01
	PRC	-0,18	0,02	-0,42**
	Australia	-0,23	0,02	-0,47**
Organized-flexible	Costa Rica	-0,16	0,02	-0,38**
	Hungary	-0,16	0,02	-0,43**
	Vietnam	-0,05	0,02	-0,16**
	USA	-0,14	0,02	-0,28**

*signifies correlation significance p<0.05; ** signifies correlation significance p<0.01

Table A-20. Regression analysis by age within countries along the four dimensions

		Unstandardized Coefficients		Standardized Coefficient
	country	B	SE B	β
Extraversion-introversion	PRC	-0,05	0,03	-0,11
	Australia	0,01	0,04	0,02
	Costa Rica	0,00	0,03	0,00
	Hungary	-0,04	0,03	-0,09
	Vietnam	-0,09	0,02	-0,29**
	USA	0,01	0,03	0,03
Practical-imaginative	PRC	-0,08	0,03	-0,17*
	Australia	-0,02	0,04	-0,04
	Costa Rica	-0,04	0,03	-0,09
	Hungary	-0,07	0,03	-0,18**
	Vietnam	-0,13	0,03	-0,31**
	USA	0,07	0,04	0,12
Thinking-feeling	PRC	0,04	0,03	0,10
	Australia	0,02	0,03	0,05
	Costa Rica	0,05	0,03	0,13*
	Hungary	-0,08	0,02	-0,23**
	Vietnam	0,00	0,03	0,01
	USA	0,04	0,03	0,07
Organized-flexible	PRC	-0,15	0,03	-0,36**
	Australia	-0,20	0,04	-0,40**
	Costa Rica	-0,19	0,03	-0,43**
	Hungary	-0,19	0,02	-0,53**
	Vietnam	-0,06	0,02	-0,17**
	USA	-0,09	0,03	-0,20**

Table A-21. Regression analysis by age*gender within countries along the four dimensions – males (* p<0.05; ** p<0.01)

		Unstandardized Coefficients		Standardized Coefficients
	country	B	SE B	β
Extraversion-introversion	PRC	-0,08	0,03	-0,18**
	Australia	0,08	0,03	0,19**
	Costa Rica	0,05	0,03	0,13
	Hungary	-0,02	0,03	-0,05
	Vietnam	0,00	0,03	0,00
	USA	0,07	0,03	0,12*
Practical-imaginative	PRC	-0,09	0,03	-0,21**
	Australia	0,00	0,03	0,00
	Costa Rica	-0,04	0,02	-0,12
	Hungary	-0,13	0,03	-0,28**
	Vietnam	-0,03	0,03	-0,07
	USA	0,01	0,03	0,03
Thinking-feeling	PRC	0,00	0,03	-0,01
	Australia	-0,01	0,03	-0,03
	Costa Rica	-0,07	0,02	-0,20**
	Hungary	-0,16	0,03	-0,39**
	Vietnam	0,06	0,03	0,17*
	USA	-0,04	0,03	-0,07
Organized-flexible	PRC	-0,21	0,03	-0,48**
	Australia	-0,25	0,03	-0,51**
	Costa Rica	-0,14	0,03	-0,33**
	Hungary	-0,13	0,03	-0,34**
	Vietnam	-0,04	0,02	-0,14
	USA	-0,17	0,03	-0,35**

Table A-22. Regression analysis by age*gender within countries along the four dimensions – females (* p<0.05; ** p<0.01)

			N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
							Lower Bound	Upper Bound
collectivist	Zscore E	9 year-olds	299	0,06	0,79	0,05	-0,03	0,15
		15 year-olds	304	-0,13	1,05	0,06	-0,25	-0,01
	Zscore P	9 year-olds	299	0,42	0,89	0,05	0,31	0,52
		15 year-olds	304	-0,02	0,96	0,05	-0,13	0,09
	Zscore T	9 year-olds	299	-0,15	1,03	0,06	-0,27	-0,03
		15 year-olds	304	-0,08	0,90	0,05	-0,18	0,02
	Zscore O	9 year-olds	299	0,59	0,73	0,04	0,51	0,67
		15 year-olds	304	-0,14	0,96	0,05	-0,25	-0,03
individualist	Zscore E	9 year-olds	292	-0,07	0,81	0,05	-0,16	0,02
		15 year-olds	283	0,00	1,15	0,07	-0,14	0,13
	Zscore P	9 year-olds	292	-0,09	1,00	0,06	-0,20	0,03
		15 year-olds	283	-0,20	1,16	0,07	-0,34	-0,07
	Zscore T	9 year-olds	292	0,27	0,94	0,05	0,16	0,38
		15 year-olds	283	-0,01	1,14	0,07	-0,14	0,12
	Zscore O	9 year-olds	292	0,22	0,87	0,05	0,12	0,32
		15 year-olds	283	-0,77	0,91	0,05	-0,88	-0,67

Table A-23. Descriptives of ANOVA contrast tests within 'collectivist' (PRC, Costa Rica and Vietnam) and 'individualist' (Australia, Hungary, USA) countries between 9 and 15 year-olds

			Sum of Squares	df	Mean Square	F	Sig.
collectivist	Zscore P	Between Groups	35,58	3	11,86	13,84	0,00
		Within Groups	1035,90	1209	0,86		
		Total	1071,47	1212			
	Zscore O	Between Groups	118,92	3	39,64	54,84	0,00
		Within Groups	873,91	1209	0,72		
		Total	992,83	1212			
individualist	Zscore T	Between Groups	11,71	3	3,91	3,62	0,01
		Within Groups	1367,61	1266	1,08		
		Total	1379,33	1269			
	Zscore O	Between Groups	181,77	3	60,59	70,27	0,00
		Within Groups	1091,55	1266	0,86		
		Total	1273,32	1269			

Table A-24. ANOVA within 'collectivist' (PRC, Costa Rica and Vietnam) and 'individualist' (Australia, Hungary, USA) countries between 9 and 15 year-olds

		Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
collectivist	Zscore E	0,19	0,08	2,54	563,70	0,01
	Zscore P	0,43	0,08	5,74	599,29	0,00
	Zscore O	0,73	0,07	10,55	567,32	0,00
individualist	Zscore T	0,28	0,09	3,23	545,96	0,00
	Zscore O	1,00	0,07	13,43	568,94	0,00

Table A-25. ANOVA contrast test within 'collectivist' (PRC, Costa Rica and Vietnam) and 'individualist' (Australia, Hungary, USA) countries between 9 and 15 year-olds

		N	Mean	SD	SE	95% Confidence Interval	
						Lower B	Upper B
Zscore E	PRC	199	-0,01	1,08	0,08	-0,16	0,15
	Australia	167	-0,25	1,04	0,08	-0,41	-0,09
	Costa Rica	213	0,25	0,98	0,07	0,12	0,38
	Hungary	201	-0,04	0,91	0,06	-0,17	0,09
	Vietnam	196	-0,33	0,71	0,05	-0,43	-0,23
	USA	240	-0,04	0,99	0,06	-0,17	0,08
	Total	1216	-0,06	0,97	0,03	-0,11	0,00
Zscore P	PRC	199	0,21	1,01	0,07	0,07	0,35
	Australia	167	-0,19	1,06	0,08	-0,36	-0,03
	Costa Rica	213	-0,20	0,91	0,06	-0,33	-0,08
	Hungary	201	-0,06	0,88	0,06	-0,18	0,06
	Vietnam	196	0,28	0,91	0,07	0,15	0,40
	USA	240	-0,09	1,08	0,07	-0,23	0,04
	Total	1216	-0,01	1,00	0,03	-0,07	0,04
Zscore T	PRC	199	-0,03	0,98	0,07	-0,16	0,11
	Australia	167	0,72	0,95	0,07	0,58	0,87
	Costa Rica	213	0,47	0,89	0,06	0,35	0,59
	Hungary	201	0,36	0,79	0,06	0,25	0,47
	Vietnam	196	-0,39	0,85	0,06	-0,51	-0,27
	USA	240	0,63	0,98	0,06	0,51	0,76
	Total	1216	0,30	0,98	0,03	0,25	0,36
Zscore O	PRC	199	0,21	0,92	0,07	0,08	0,34
	Australia	167	-0,70	1,11	0,09	-0,87	-0,53
	Costa Rica	213	0,34	0,98	0,07	0,21	0,48
	Hungary	201	-0,19	0,83	0,06	-0,30	-0,07
	Vietnam	196	0,16	0,76	0,05	0,05	0,27
	USA	240	-0,28	0,93	0,06	-0,40	-0,16
	Total	1216	-0,06	0,98	0,03	-0,12	-0,01

Table A-26. Descriptives of ANOVA contrast tests between males of diffferent countries

		Sum of Squares	df	Mean Square	F	Sig.
Zscore E	Between Groups	41,33	5,00	8,27	9,02	0,00
	Within Groups	1108,69	1210,00	0,92		
	Total	1150,02	1215,00			
Zscore P	Between Groups	41,53	5,00	8,31	8,62	0,00
	Within Groups	1165,60	1210,00	0,96		
	Total	1207,13	1215,00			
Zscore T	Between Groups	177,14	5,00	35,43	43,00	0,00
	Within Groups	996,88	1210,00	0,82		
	Total	1174,02	1215,00			
Zscore O	Between Groups	141,91	5,00	28,38	33,24	0,00
	Within Groups	1033,16	1210,00	0,85		
	Total	1175,08	1215,00			

Table A-27. ANOVA tests between countries within males

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Zscore E	Australia	-1,09	0,43	-2,54	211,00	0,01
	Costa Rica	1,92	0,37	5,23	305,36	0,00
	Vietnam	-1,55	0,30	-5,18	364,82	0,00
Zscore P	PRC	1,33	0,39	3,40	275,03	0,00
	Australia	-1,10	0,44	-2,52	211,58	0,01
	Costa Rica	-1,15	0,35	-3,30	329,48	0,00
	Vietnam	1,72	0,36	4,76	292,46	0,00
Zscore T	PRC	-1,93	0,37	-5,18	267,60	0,00
	Australia	2,55	0,39	6,51	216,03	0,00
	Costa Rica	1,06	0,34	3,16	315,58	0,00
	Vietnam	-4,10	0,34	-12,17	289,88	0,00
	USA	2,02	0,35	5,82	344,94	0,00
Zscore O	PRC	1,73	0,36	4,81	284,33	0,00
	Australia	-3,73	0,45	-8,24	200,76	0,00
	Costa Rica	2,52	0,37	6,89	299,32	0,00
	Hungary	-0,69	0,33	-2,10	315,93	0,04
	Vietnam	1,41	0,31	4,52	328,00	0,00
	USA	-1,24	0,34	-3,69	367,65	0,00

Table A-28. Significant ANOVA contrast coefficients and results of contrast tests between countries (one country compared to others) for males

		N	Mean	SD	SE	95% Confidence Interval	
						Lower B	Upper B
Zscore E	PRC	201	-0,01	1,05	0,07	-0,15	0,14
	Australia	202	-0,04	1,03	0,07	-0,18	0,11
	Costa Rica	219	0,29	0,95	0,06	0,16	0,42
	Hungary	200	0,17	1,01	0,07	0,03	0,31
	Vietnam	185	-0,42	0,78	0,06	-0,53	-0,30
	USA	260	0,23	1,10	0,07	0,10	0,36
	Total	1267	0,06	1,02	0,03	0,00	0,11
Zscore P	PRC	201	0,37	0,99	0,07	0,23	0,51
	Australia	202	-0,15	1,11	0,08	-0,31	0,00
	Costa Rica	219	-0,15	0,80	0,05	-0,26	-0,04
	Hungary	200	-0,10	1,01	0,07	-0,24	0,04
	Vietnam	185	0,30	0,85	0,06	0,18	0,42
	USA	260	-0,12	1,07	0,07	-0,25	0,01
	Total	1267	0,01	1,00	0,03	-0,04	0,07
Zscore T	PRC	201	-0,34	0,84	0,06	-0,46	-0,22
	Australia	202	-0,21	1,07	0,08	-0,35	-0,06
	Costa Rica	219	-0,10	0,81	0,05	-0,21	0,01
	Hungary	200	-0,27	0,91	0,06	-0,40	-0,14
	Vietnam	185	-0,59	0,84	0,06	-0,72	-0,47
	USA	260	-0,27	0,99	0,06	-0,39	-0,15
	Total	1267	-0,29	0,93	0,03	-0,34	-0,24
Zscore O	PRC	201	0,38	0,96	0,07	0,25	0,52
	Australia	202	-0,57	1,16	0,08	-0,73	-0,41
	Costa Rica	219	0,56	0,96	0,07	0,43	0,69
	Hungary	200	-0,11	0,83	0,06	-0,22	0,01
	Vietnam	185	0,10	0,71	0,05	0,00	0,21
	USA	260	-0,03	0,98	0,06	-0,15	0,09
	Total	1267	0,06	1,01	0,03	0,00	0,11

Table A-29. Descriptives of ANOVA contrast tests between females of diffferent countries

		Sum of Squares	df	Mean Square	F	Sig.
Zscore E	Between Groups	66,23	5,00	13,25	13,28	0,00
	Within Groups	1257,64	1261,00	1,00		
	Total	1323,87	1266,00			
Zscore P	Between Groups	58,94	5,00	11,79	12,23	0,00
	Within Groups	1215,59	1261,00	0,96		
	Total	1274,53	1266,00			
Zscore T	Between Groups	27,11	5,00	5,42	6,42	0,00
	Within Groups	1065,30	1261,00	0,85		
	Total	1092,41	1266,00			
Zscore O	Between Groups	162,81	5,00	32,56	36,17	0,00
	Within Groups	1135,25	1261,00	0,90		
	Total	1298,07	1266,00			

Table A-30. ANOVA tests between countries within females

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
Zscore E	Costa Rica	1,52	0,36	4,26	325,32	0,00
	Hungary	0,78	0,39	2,02	274,93	0,04
	Vietnam	-2,72	0,33	-8,30	304,44	0,00
	USA	1,15	0,37	3,09	370,12	0,00
Zscore P	PRC	2,06	0,38	5,43	278,44	0,00
	Australia	-1,05	0,42	-2,52	259,40	0,01
	Costa Rica	-1,05	0,31	-3,36	380,67	0,00
	Hungary	-0,73	0,39	-1,88	272,21	0,06
	Vietnam	1,65	0,35	4,74	280,45	0,00
	USA	-0,88	0,36	-2,43	373,66	0,02
Zscore T	Costa Rica	1,18	0,31	3,80	350,44	0,00
	Vietnam	-1,78	0,34	-5,26	268,00	0,00
Zscore O	PRC	1,95	0,37	5,30	276,53	0,00
	Australia	-3,73	0,43	-8,70	248,36	0,00
	Costa Rica	3,02	0,36	8,48	310,72	0,00
	Hungary	-0,98	0,33	-2,98	308,64	0,00

Table A-31. ANOVA contrast coefficients and results of contrast tests between countries (one country compared to others) for females

			Sum of Squares	df	Mean Square	F	Sig.
males	Zscore E	Between Groups	41,33	5	8,27	9,02	0,00
		Within Groups	1108,69	1210	0,92		
		Total	1150,02	1215			
	Zscore P	Between Groups	41,53	5	8,31	8,62	0,00
		Within Groups	1165,60	1210	0,96		
		Total	1207,13	1215			
	Zscore T	Between Groups	177,14	5	35,43	43,00	0,00
		Within Groups	996,88	1210	0,82		
		Total	1174,02	1215			
	Zscore O	Between Groups	141,91	5	28,38	33,24	0,00
		Within Groups	1033,16	1210	0,85		
		Total	1175,08	1215			
females	Zscore E	Between Groups	66,23	5	13,25	13,28	0,00
		Within Groups	1257,64	1261	1,00		
		Total	1323,87	1266			
	Zscore P	Between Groups	58,94	5	11,79	12,23	0,00
		Within Groups	1215,59	1261	0,96		
		Total	1274,53	1266			
	Zscore T	Between Groups	27,11	5	5,42	6,42	0,00
		Within Groups	1065,30	1261	0,85		
		Total	1092,41	1266			
	Zscore O	Between Groups	162,81	5	32,56	36,17	0,00
		Within Groups	1135,25	1261	0,90		
		Total	1298,07	1266			

Table A-32. ANOVA tests between collectivist and individualist countries within gender

		Value of Contrast	Std. Error	t	df	Sig. (2-tailed)
male	Zscore P	,63246	,16982	3,724	1109,148	,000
	Zscore T	-1,65836	,15685	-10,573	1125,367	,000
	Zscore O	1,88503	,16174	11,655	1010,071	,000
female	Zscore E	-,49487	,16702	-2,963	1219,685	,003
	Zscore P	,88814	,16526	5,374	1178,139	,000
	Zscore O	1,75111	,15914	11,003	1147,072	,000

Table A-33. ANOVA contrast coefficients and results of contrast tests between collectivist and individualist countries within gender if equal variances are not assumed

		Country						Total
		PRC	Australia	Costa Rica	Hungary	Vietnam	USA	
E	Count	47	**23**	**66**	**62**	**21**	66	290
	Adjusted Residual	-,9	**-3,5**	**2,6**	**2,6**	**-4,1**	1,2	
I	Count	58	52	**40**	56	**71**	57	334
	Adjusted Residual	,7	,4	**-2,8**	,3	**3,2**	-1,5	
P	Count	**62**	34	**32**	43	**82**	53	306
	Adjusted Residual	**2,1**	-2,0	**-3,4**	-1,1	**5,9**	-1,3	
M	Count	**26**	45	56	55	**29**	**83**	294
	Adjusted Residual	**-3,6**	,2	,8	1,3	**-2,8**	**3,7**	
T	Count	**30**	67	64	62	**18**	**87**	328
	Adjusted Residual	**-3,7**	3,0	1,1	1,5	**-5,3**	**3,1**	
F	Count	62	40	**30**	47	**95**	**51**	325
	Adjusted Residual	1,6	-1,4	**-4,2**	-,9	**7,5**	**-2,1**	
O	Count	**76**	**15**	**111**	**33**	**33**	**41**	309
	Adjusted Residual	**4,3**	**-5,3**	**9,2**	**-2,8**	**-2,4**	**-3,2**	
L	Count	**34**	**93**	**33**	43	**32**	62	297
	Adjusted Residual	**-2,3**	**8,5**	**-3,0**	-,8	**-2,3**	,3	
	TotalCount	400	369	432	401	381	500	2483

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	407,069	35	,000
Likelihood Ratio	393,004	35	,000
N of Valid Cases	2483		

a 0 cells (,0%) have expected count less than 5. The minimum expected count is 43,10.

Table A-34. Idiographic solution for styles by country – cross-tabulation and Chi-square tests

country		Value	df	Asymp. Sig. (2-sided)
PRC	Pearson Chi-Square	69,234	21	,000
	N of Valid Cases	400		
Australia	Pearson Chi-Square	50,267	21	,000
	N of Valid Cases	369		
Costa Rica	Pearson Chi-Square	58,277	21	,000
	N of Valid Cases	432		
Hungary	Pearson Chi-Square	70,123	21	,000
	N of Valid Cases	401		
Vietnam	Pearson Chi-Square	61,568	21	,000
	N of Valid Cases	381		
USA	Pearson Chi-Square	40,898	21	,006
	N of Valid Cases	500		

Table A-35. Idiographic solution for styles by country*age aggregated variable – Chi-square tests

Country			age 9	11	13	15	Total
	T	Count	**12**	4	6	8	30
		Adjusted Residual	**2,0**	-1,5	-,7	,2	
PRC	I	Count	**7**	15	17	19	58
		Adjusted Residual	**-2,5**	,2	,8	1,5	
	M	Count	**2**	**1**	**12**	**11**	26
		Adjusted Residual	**-2,1**	**-2,6**	**2,6**	**2,1**	
	L	Count	**3**	4	8	**19**	34
		Adjusted Residual	**-2,3**	-1,9	-,2	**4,3**	
	O	Count	24	**32**	**12**	**8**	76
		Adjusted Residual	1,5	**3,8**	**-2,1**	**-3,2**	
	TOTAL	Count	100	100	100	100	400
Australia	M	Count	14	15	**2**	14	45
		Adjusted Residual	,7	1,1	**-2,8**	,7	
	L	Count	**9**	21	**27**	**36**	93
		Adjusted Residual	**-4,3**	-1,0	**2,5**	**3,0**	
	O	Count	**10**	4	1	**0**	15
		Adjusted Residual	**3,6**	,0	-1,3	**-2,4**	
	TOTAL	Count	98	98	74	99	369
Costa Rica	E	Count	**6**	17	**25**	18	66
		Adjusted Residual	**-3,2**	,2	**2,6**	,3	
	O	Count	**39**	**37**	23	**12**	111
		Adjusted Residual	**3,0**	**2,4**	-1,2	**-4,2**	
	L	Count	**3**	**2**	10	**18**	33
		Adjusted Residual	**-2,1**	**-2,6**	,7	**3,9**	
	TOTAL	Count	106	107	108	111	432
Hungary	I	Count	**5**	**23**	12	16	56
		Adjusted Residual	**-2,9**	**3,0**	-,7	,7	
	F	Count	10	7	12	**18**	47
		Adjusted Residual	-,6	-1,7	,0	**2,3**	
	O	Count	**19**	9	**3**	**2**	33
		Adjusted Residual	**4,6**	,3	**-2,3**	**-2,6**	
	L	Count	**5**	**4**	14	**20**	43
		Adjusted Residual	**-2,1**	**-2,5**	1,1	**3,5**	
	TOTAL	Count	99	100	102	100	401
Vietnam	I	Count	**5**	19	20	**27**	71
		Adjusted Residual	**-3,8**	,1	,7	**3,0**	
	F	Count	**32**	27	21	**15**	95
		Adjusted Residual	**2,4**	,6	-,7	**-2,3**	
	P	Count	**35**	**13**	17	17	82
		Adjusted Residual	**4,3**	**-2,4**	-1,0	-,9	
	M	Count	**2**	8	**12**	7	29
		Adjusted Residual	**-2,3**	,2	**2,1**	,0	
	O	Count	5	**14**	6	8	33
		Adjusted Residual	-1,3	**2,2**	-,9	,0	
	TOTAL	Count	93	100	95	93	381
USA	E	Count	**6**	24	26	10	66
		Adjusted Residual	**-2,2**	,7	1,4	-,4	
	O	Count	**16**	**19**	**5**	**1**	41
		Adjusted Residual	**3,4**	**2,0**	**-2,8**	**-2,6**	
	TOTAL	Count	95	162	159	84	500

Table A-36. Idiographic solution for styles by country*age aggregated variable – cross-tabulation

			gender		Total
country			males	females	
PRC	T	Count	**23**	**7**	30
		Adjusted Residual	**3,1**	**-3,1**	
	O	Count	**29**	**47**	76
		Adjusted Residual	**-2,2**	**2,2**	
	total	Count	199	201	400
	T	Count	**51**	**16**	67
Australia		Adjusted Residual	**5,6**	**-5,6**	
	F	Count	**4**	**36**	40
		Adjusted Residual	**-4,7**	**4,7**	
	total	Count	167	202	369
Costa Rica	T	Count	**49**	**15**	64
		Adjusted Residual	**4,7**	**-4,7**	
	F	Count	**8**	**22**	30
		Adjusted Residual	**-2,6**	**2,6**	
	total	Count	213	219	432
Hungary	T	Count	**48**	**14**	62
		Adjusted Residual	**4,7**	**-4,7**	
	F	Count	**11**	**36**	47
		Adjusted Residual	**-3,9**	**3,9**	
	total	Count	201	200	401
Vietnam	total	Count	196	185	381
USA	E	Count	**22**	**44**	66
		Adjusted Residual	**-2,6**	**2,6**	
	T	Count	**71**	**16**	87
		Adjusted Residual	**6,9**	**-6,9**	
	F	Count	**12**	**39**	51
		Adjusted Residual	**-3,7**	**3,7**	
	O	Count	**12**	**29**	41
		Adjusted Residual	**-2,5**	**2,5**	
	total	Count	240	260	500

Table A-37. Idiographic solution for styles by country*gender aggregated variable – cross-tabulation

country		Value	df	Asymp. Sig. (2-sided)
PRC	Pearson Chi-Square	15,852	7	,026
	N of Valid Cases	400		
Australia	Pearson Chi-Square	53,034	7	,000
	N of Valid Cases	369		
Costa Rica	Pearson Chi-Square	40,345	7	,000
	N of Valid Cases	432		
Hungary	Pearson Chi-Square	36,013	7	,000
	N of Valid Cases	401		
Vietnam	Pearson Chi-Square	9,942	7	,192
	N of Valid Cases	381		
USA	Pearson Chi-Square	64,398	7	,000
	N of Valid Cases	500		

Table A-38. Idiographic solution for styles by country*gender aggregated variable – Chi-square tests